

**Final  
Supplemental Environmental Assessment  
Combat Air Forces Adversary Air Plus Up with  
F-22 Formal Training Unit  
Eglin Air Force Base, Florida**

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**March 2023**



**United States Air Force  
33rd Fighter Wing**

**Eglin Air Force Base, Florida**



### **Privacy Advisory**

This Supplemental Environmental Assessment (EA) is provided for public comment in accordance with the National Environmental Policy Act of 1969 (NEPA), the President's Council on Environmental Quality (CEQ) NEPA Regulations (40 Code of Federal Regulations [CFR] Parts 1500 to 1508), and 32 CFR Part 989, *Environmental Impact Analysis Process (EIAP)*. For this EA, the updated September 2020 CEQ NEPA rules (85 Federal Register 43304 through 43376) are being followed, as modified by the CEQ NEPA Implementing Regulations Revisions Final Rule that became effective 20 May 2022. The EIAP provides an opportunity for public input on Department of the Air Force (Air Force) decision-making, allows the public to offer inputs on alternative ways for the Air Force to accomplish what it is proposing, and solicits comments on the Air Force's analysis of environmental effects.

Public commenting allows the Air Force to make better, informed decisions. Letters or other written or oral comments provided may be published in the Supplemental EA. As required by law, comments provided will be addressed in the Supplemental EA and made available to the public. Providing personal information is voluntary. Any personal information provided will be used only to identify your desire to make a statement during the public comment portion of any public meetings or hearings or to fulfill requests for copies of the Supplemental EA or associated documents. Private addresses will be compiled to develop a mailing list for those requesting copies of the Supplemental EA; however, only the names of the individuals making comments and specific comments will be disclosed. Personal home addresses and phone numbers will not be published in the Supplemental EA.

### **Compliance with Section 508 of the Rehabilitation Act**

This document is compliant with Section 508 of the Rehabilitation Act. This allows assistive technology to be used to obtain the available information from the document. Due to the nature of graphics, figures, tables, and images occurring in the document, accessibility is limited to a descriptive title for each item.

### **Compliance with Revised CEQ Regulations**

This document has been verified that it does not exceed the 75 pages, not including appendices, as defined in 40 CFR § 1501.5(f). As defined in 40 CFR § 1508.1(v) a "page" means 500 words and does not include maps, diagrams, graphs, tables, and other means of graphically displaying quantitation or geospatial information.

This Supplemental EA has been prepared pursuant to provisions of the NEPA, Title 42 United States Code §§ 4321 to 4347, implemented by CEQ Regulations, Title 40, C FR Parts 1500 to 1508, and 32 CFR Part 989.



**COVER SHEET**  
**SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT (EA) FOR COMBAT AIR FORCES ADVERSARY AIR PLUS**  
**UP WITH F-22 FORMAL TRAINING UNIT, EGLIN AIR FORCE BASE, FLORIDA**

- a. *Responsible Agency:* United States Air Force (Air Force)
- b. *Cooperating Agency:* None
- c. *Proposals and Actions:* The supplemental environmental assessment (EA) analyzes a Proposed Action to provide additional dedicated contract adversary air (ADAI) sorties for Combat Air Forces training for Eglin Air Force Base (AFB). Contract ADAIR would support Eglin AFB training operations out of Eglin AFB, Okaloosa County, Florida, or Northwest Florida Beaches International Airport (ECP), Bay County, Florida. The description of the Proposed Action for establishing contract ADAIR has been discussed in detail in the *EA for Combat Air Forces Adversary Air, Eglin Air Force Base, Florida*, (hereafter referred to as the March 2022 EA) and Finding of No Significant Impact (FONSI) signed by the Air Force in March 2022. The baseline for the previous analysis assumed the F-22 Formal Training Unit (FTU) would depart Eglin AFB prior to permanent contract ADAIR operating in support of Eglin AFB. Since the decision to relocate the F-22 FTU to Joint Base Langley Eustis (JBLE)-Langley has been delayed, this Proposed Action includes the contract ADAIR sorties previously analyzed in the March 2022 EA, an increase in contract ADAIR sorties, and the potential continuation of F-22 FTU operations at Eglin AFB. Six aircraft types (MiG-29, F-5, Dassault Mirage, F-16, Eurofighter Typhoon, and JAS-39 Gripen) have been identified which would meet the needs of the Air Force for contract ADAIR selection for Eglin AFB based on performance capabilities of the aircraft and how those capabilities best meet mission training requirements at the installation. The Proposed Action would include the addition of 19 contracted maintainers and four contracted pilots and approximately 600 annual contract ADAIR sorties within existing Warning Areas and Air Traffic Control Assigned Airspace.
- d. *For Additional Information:* 96th Test Wing Public Affairs, 101 West D Avenue, Room 238, Eglin AFB, Florida 32542 or by email to 96CEG.CEIEA.NEPAPublicComments@us.af.mil.
- e. *Designation:* Final Supplemental EA
- f. *Abstract:* The purpose of the Proposed Action is to provide additional, dedicated contract ADAIR sorties to further improve the quality of training and readiness of fighter aircrews of the 33rd Fighter Wing and other units supported by Eglin AFB. The need for the action is to provide better and more realistic training for the flight training program in support of units at Eglin AFB. The purpose and need for establishing the contract ADAIR program has been discussed in detail in the March 2022 EA the *EA for Combat Air Forces Adversary Air, Eglin Air Force Base, Florida* (Air Force, 2022). As the relocation of the F-22 FTU to JBLE-Langley is delayed, there is a further need to consider implementation of contract ADAIR with the continuation of the F-22 FTU aircraft operating from Eglin AFB until June 2023, and the departure of the F-22 FTU by fall of 2023.

Six aircraft types (MiG-29, F-5, Dassault Mirage, F-16, Eurofighter Typhoon, and JAS-39 Gripen) have been identified which would meet the needs of the Air Force for contract ADAIR selection for Eglin AFB. Contracted ADAIR service providers may ultimately choose another type of aircraft to support Air Force ADAIR needs for Eglin AFB; however, any aircraft selected would need to operate within the parameters and impact levels evaluated within this Supplemental EA or supplemental National Environmental Policy Act analysis would be required. The Proposed Action includes additional contract ADAIR aircraft, maintenance, personnel, and sorties at the same alternative locations analyzed in the March 2022 EA. The Proposed Action also includes increased operations, increased use of defensive countermeasures, and accounts for possible continued F-22 FTU operations from Eglin AFB. The additional contract ADAIR aircraft would not use any additional airspace beyond what was analyzed in the March 2022 EA.

The F-22 FTU, including F-22 and T-38 aircraft, has been operational from Eglin AFB since 2019. The Proposed Action would include implementing contract ADAIR with the existing F-22 FTU. The F-22 FTU or contract ADAIR would not require additional facilities at Eglin AFB. No additional staff would be required for continued operation of the F-22 FTU at Eglin AFB. No additional sorties would be flown by the F-22 FTU as part of the Proposed Action. Need for office space and briefing areas for pilots and aircraft maintenance unit facilities, aircraft maintenance hangar space, tool and equipment storage, aerospace ground equipment storage, vehicle parking, and aircraft parking ramp space would be met with existing facilities.

The analysis of the affected environment and environmental consequences of implementing the Proposed Action and alternatives, when considered with reasonably foreseeable future actions, concluded that by implementing standing environmental protection measures and best management practices, there would be no significant or long-term adverse impacts from contract ADAIR operations at Eglin AFB, ECP, or in the special use airspace for the following resources: airspace management and use; noise; safety; air quality; biological resources; land use; socioeconomics – income and employment; environmental justice and protection of children; cultural resources; and hazardous materials, Environmental Remediation Program sites, and toxic substances.

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## **FINDING OF NO SIGNIFICANT IMPACT (FONSI)**

### **COMBAT AIR FORCES ADVERSARY AIR PLUS UP WITH F-22 FORMAL TRAINING UNIT EGLIN AIR FORCE BASE, FLORIDA**

Pursuant to provisions of the National Environmental Policy Act (NEPA), 42 United States Code §§ 4321 to 4370h; Council on Environmental Quality (CEQ) Regulations, 40 Code of Federal Regulations (CFR) Parts 1500 to 1508, as modified by the CEQ National Environmental Policy Act Implementing Regulations Revisions Final Rule that became effective 20 May 2022; and 32 CFR Part 989, *Environmental Impact Analysis Process (EIAP)*, the Department of the Air Force (Air Force) prepared the attached Supplemental Environmental Assessment (EA) to address the potential environmental consequences associated with providing additional contract adversary air (ADAIR) sorties for further improving training and readiness of pilots at Eglin Air Force Base (AFB), Florida.

#### **Purpose and Need**

The purpose of the Proposed Action is to provide additional, dedicated contract ADAIR sorties to further improve the quality of training and readiness of fighter aircrews of the 33rd Fighter Wing (33 FW) and other units supported by Eglin AFB. The purpose for establishing the contract ADAIR program has been discussed in detail in the *EA for Combat Air Forces Adversary Air, Eglin Air Force Base, Florida* (hereafter referred to as the March 2022 EA) and *Finding of No Significant Impact (FONSI)* signed by the Air Force in March 2022.

The need for the action is to provide better and more realistic training for the flight training program in support of units at Eglin AFB. Dedicated contract ADAIR is critical to improving pilot readiness as it provides realistic training opportunities to employ Combat Air Forces (CAF) tactics and procedures that optimize the training value of every mission and does not displace or interfere with on-base activities. The need for establishing program contract ADAIR has been discussed in detail in the previously referenced *EA for Combat Air Forces Adversary Air, Eglin Air Force Base, Florida* (Air Force, 2022). As the relocation of the F-22 Formal Training Unit (FTU) to Joint Base Langley Eustis (JBLE)-Langley is delayed, there is a further need to consider implementation of contract ADAIR with the continuation of the F-22 FTU aircraft operating from Eglin AFB until June 2023, and the departure of the F-22 FTU by fall of 2023.

#### **Description of Proposed Action and Alternatives**

The description of the Proposed Action for establishing contract ADAIR has been discussed in detail in March 2022 EA. The baseline for the previous analysis assumed the F-22 FTU would depart Eglin AFB prior to permanent contract ADAIR operating from any alternative location. Since the relocation of the F-22 FTU to JBLE-Langley has been delayed, this Proposed Action includes the contract ADAIR sorties previously analyzed in the March 2022 EA plus the increase and the potential continuation of F-22 FTU operations at Eglin AFB.

The Proposed Action would include additional contract ADAIR aircraft, maintenance, personnel, and sorties analyzed in the March 2022 EA. The Proposed Action also includes increased operations, increased use of defensive countermeasures, and accounts for F-22 FTU operations. The additional contract ADAIR aircraft would not use any additional airspace beyond what was previously analyzed for contract ADAIR at Eglin AFB.

The Air Force is proposing to provide an additional 600 annual dedicated contract ADAIR sorties for CAF training in support of Eglin AFB and would include increasing the contract maintenance personnel from 78 to 97, and contracted pilots from 15 to 19. The total number of aircraft would increase from 12 to 16. Six aircraft types (MiG-29, F-5, Dassault Mirage, F-16, Eurofighter Typhoon, and JAS-39 Gripen) have been identified as capable of providing contract ADAIR support to F-35 pilots at Eglin AFB based on performance

capabilities of the aircraft and how those capabilities best meet mission training requirements. One or a combination of these aircraft types may be operated by a contractor in support of ADAIR training.

The F-22 FTU, including F-22 and T-38 aircraft, has been operational from Eglin AFB since 2019. The Proposed Action would include implementing contract ADAIR with the existing F-22 FTU. The F-22 FTU would not require additional facilities at Eglin AFB. No additional staff would be required for continued operation of the F-22 FTU at Eglin AFB. No additional sorties would be flown by the F-22 FTU as part of the Proposed Action. Need for office space and briefing areas for pilots and Aircraft Maintenance Unit (AMU) facilities, aircraft maintenance hangar space, tool and equipment storage, aerospace ground equipment (AGE) storage, vehicle parking, and aircraft parking ramp space is met with existing facilities.

In addition to the No Action Alternative, four alternatives for the proposed contract ADAIR plus up were identified for evaluation in this Supplemental EA.

### **Action Alternatives**

- **Alternative 1** – Establish contract ADAIR capabilities at Eglin AFB, as described in the March 2022 EA, Alternative 1 operating with the F-22 FTU mission continuing temporarily at Eglin AFB.
- **Alternative 2** – Establish contract ADAIR capabilities at Eglin AFB with an estimated 16 contract ADAIR aircraft providing 3,000 annual contract ADAIR sorties with the F-22 FTU mission continuing temporarily at Eglin AFB. Alternative 2 represents an addition of 600 contract ADAIR sorties and four contract ADAIR aircraft to Alternative 1.
- **Alternative 3** – Establish contract ADAIR capabilities at Eglin AFB as described in the March 2022 EA, Alternative 1, without the F-22 FTU, plus an additional 600 contract ADAIR sorties and four contract ADAIR aircraft for a total of 3,000 annual contract ADAIR sorties and 16 contract ADAIR aircraft.
- **Alternative 4** – Establish contract ADAIR capabilities at ECP as described in the March 2022 EA, Alternative, plus an additional 600 contract ADAIR sorties and four aircraft for a total of 3,000 annual contract ADAIR sorties and 16 contract ADAIR aircraft.

### **No Action Alternative**

No Action means that an action would not take place, and the resulting environmental effects from taking no action would be compared with the effects of allowing the proposed activity to go forward. For the purposes of this Supplemental EA, No Action is 2,400 contract ADAIR sorties at Eglin AFB with the departure of the F-22 FTU mission or 2,400 contract ADAIR sorties at ECP as previously analyzed in the March 2022 EA.

### **Summary of Findings**

Potentially affected environmental resources were identified through communications with state and federal agencies and review of past environmental documentation. Specific environmental resources with the potential for environmental consequences include airspace management and use; noise; safety; air quality; biological resources; land use; socioeconomics – income and employment; environmental justice and protection of children; cultural resources; and hazardous materials, Environmental Remediation Program sites, and toxic substances.

### **Airspace Management and Use**

Under Alternative 1, the addition of an estimated 9,760 annual sorties associated with the F-22 FTU (39 percent increase) operating temporarily in the Eglin AFB airfield airspace would not be expected to impact the operational capacity or require changes to airspace locations or dimensions of the airspace proposed for use. Potential impacts on the airspace would be negligible and short-term. Under Alternative 2, the addition of an estimated 10,360 sorties represents a 41 percent increased use in the Eglin AFB airspace associated with the temporary F-22 FTU operations and contract ADAIR plus up. Potential impacts on the airspace would be expected to be the same as described in Alternative 1. Under Alternative 3, the addition of an estimated 600 contract ADAIR sorties and departure of the F-22 FTU mission represents a 2.4 percent increase in use of the Eglin AFB airspace. Impacts on airspace would be the same as described in Alternatives 1 and 2. Similar to Alternative 3, under Alternative 4, the addition of an estimated 600 annual ADAIR sorties (2-

percent increase) in the Northwest Florida Beaches International Airport (ECP) airport airspace would not be expected to impact the operational capacity or require changes to airspace locations or dimensions of any of the airspace around the airport proposed for use. Potential impacts on the airspace are expected to be negligible and long-term from the implementation of Alternative 4.

Within the special use airspace (SUA), annual additional sorties proposed by contract ADAIR and the continued temporary F-22 FTU sorties in Alternatives 1, 2, and 4 would increase operations from 10 to 85 percent in Warning Areas W-151 and W-470 and the Gulf Regional Airspace Strategic Initiative (GRASI) Air Traffic Control Assigned Airspace (ATCAA). No airspace modifications are included as part of the Proposed Action. The SUA proposed for use has the capacity and dimensions to support the additional sorties; therefore, impacts to the SUA would be negligible.

## Noise

The High, Medium, and Low Noise Scenarios under Alternative 1 at Eglin AFB would result in short-term, noticeable Day-Night Average Sound Level (DNL) increases (2- to 4-A-weighted decibels [dBA]) and the potential for minor impacts on all points of interest (POIs) as well as an increase in noise in areas surrounding the airfield. There would be a short-term, noticeable Onset-Rate Adjusted Day-Night Average Sound Level ( $L_{dnmr}$ ) increase of 2 decibel (dB) and the potential for minor impacts on W-151 and long-term negligible impacts on the GRASI ATCAA and W-470.

Impacts on the noise environment under Alternative 2 at Eglin AFB would be similar to those described in Alternative 1.

The High Noise Scenario under Alternative 3 at Eglin AFB would result in long-term, not noticeable (not audible) DNL increases at 11 of the POIs of 1 dBA, as well as an increase in noise in areas surrounding the airfield. Under the Medium Noise Scenario, this same noise impact would be experienced at two POIs. Under the Low Noise Scenario, long-term, not noticeable DNL increases would occur at three of the POIs of 1 dBA. No substantial change to the existing noise environment would occur in the SUA.

The High Noise Scenario under Alternative 4 at ECP would result in long-term noticeable DNL increases at one POI of 3 dBA and long-term minor to moderate, impacts at that POI, as well as an increase in noise in areas surrounding the airport. Both the Medium and Low Noise Scenarios under Alternative 4 would result in long-term likely noticeable DNL increases at one POI of 2 dBA and long-term minor impacts at that POI as well as an increase in noise in areas surrounding the airport. Noise impacts on the SUA under Alternative 4, including subsonic and supersonic operations, would be the same as described for Alternative 3.

## Safety

Safety zones around the airfields would not change under any of the Alternatives analyzed. No significant impacts on emergency response are expected as contract ADAIR would continue to comply with a Crash Damage or Disabled Aircraft Recovery program and would implement military health and safety requirements (Air Force Occupational Safety and Health and Occupational Safety and Health Administration [OSHA]) under Alternatives 1, 2, and 3 or implement all applicable civilian requirements (Federal Aviation Administration, National Transportation Safety Board, and OSHA) for Alternative 4. Under Alternatives 1 through 3, contract ADAIR would work with the 96th Maintenance Squadron to obtain munitions support, including safe handling, maintenance, and inspection. Under Alternative 4, contract ADAIR would work with the civil airport safety office to obtain a license, if needed, for storage and handling of munitions as well as comply with federal, state, and local directives. No significant impacts on airspace/flight safety are expected with contract ADAIR complying with flight safety rules and military requirements under Alternatives 1 through 3 and all civilian airport requirements under Alternative 4. Additionally, no impacts would be expected on flight safety with the implementation of contractor flight safety rules and bird/wildlife-aircraft strike hazard (BASH) procedures. No significant impacts would be expected as a result of continued temporary F-22 FTU operations under Alternatives 1, 2, or 4 as the F-22 FTU would continue to comply with safety procedures as described in the *Special EA for Emergency Beddown of the F-22 Formal Training Unit and Associated T-38 Aircraft from Tyndall AFB to Eglin AFB, Florida* (Air Force, 2019).



## Air Quality

Alternative 1 will not result in an increase in air emissions, as this represents a continuation of ongoing aircraft operations and its impacts were already described in the March 2022 EA, Alternative 1, and *Special EA for Emergency Beddown of the F-22 Formal Training Unit and Associated T-38 Aircraft from Tyndall AFB to Eglin AFB, Florida* (Air Force, 2019).

Increased air emissions resulting from proposed contract ADAIR operations from the Proposed Action under Alternatives 2 and 3 would not be considered significant. Eglin AFB is in attainment for all criteria pollutants, and there are no pollutants of major concern. Volatile organic compounds (VOCs) and nitrogen oxides (NO<sub>x</sub>) under the High, Medium, and Low Emission Scenarios would be well below the insignificance indicator threshold for Prevention of Significant Deterioration (PSD) of 250 tons per year (tpy). Carbon monoxide (CO) would have the highest emission rates; however, CO emissions would not be considered significant under the High, Medium, or Low Emission Scenarios and would remain below the 250 tpy PSD threshold. The annual emissions for the remaining pollutants would also not be considered significant as they would also be below the 250 tpy PSD threshold. The Proposed Action under Alternatives 2 and 3 at Eglin AFB would not interfere with the region's ability to maintain compliance with the National Ambient Air Quality Standards (NAAQS) for attainment area pollutants.

Emissions from the Proposed Action under Alternative 4 at ECP would be similar to those described for Alternatives 2 and 3 at Eglin AFB. ECP, located in Bay County, is in an attainment area for all criteria pollutants and there are no pollutants of major concern. In all three emission scenarios, VOC and NO<sub>x</sub> would be well below the insignificance indicator threshold of 250 tpy. CO would have the highest annual emission rate; however, given that the expected CO emissions would be below PSD thresholds and the lack of a CO nonattainment history in the Air Quality Control Region, the CO emissions would not be considered significant. For the remaining pollutants, the annual emission increases would also not be considered significant, as they would be below the 250 tpy PSD threshold. The Proposed Action under Alternative 4 should not interfere with the region's ability to maintain compliance with the NAAQS for attainment area pollutants.

## Biological Resources

There would be no impacts on vegetation or invasive species under any of the alternatives as no ground-disturbing activities are proposed. Additional contract ADAIR takeoffs and landings under Alternatives 2 and 3 with the continuing temporary F-22 FTU aircraft takeoffs and landings at Eglin AFB under Alternatives 1 and 2 would have negligible impacts on wildlife proximate to the airfield. There would be minor, adverse impacts on wildlife from additional contract ADAIR operations at ECP under Alternative 4. The minor increase in noise and additional aircraft operations would have a minor impact on the breeding and foraging of wildlife, especially bird and mammal species. The increased aircraft operations at Eglin AFB or ECP would have *no effect* on any listed species.

Most contract ADAIR and F-22 FTU aircraft operations would occur at high altitudes. As such, it is highly unlikely that aircraft movement in the SUA would adversely impact foraging or migrating birds or have an increased risk of BASH. Therefore, potential direct, adverse impacts on birds from aircraft movement would be negligible. Contract ADAIR and the continued temporary F-22 FTU aircraft movement and associated noise over the Warning Areas would have no effect on listed marine mammals and sea turtles. However, the increased use of defensive countermeasures in the Warning Areas from contract ADAIR and the continued temporary F-22 FTU operations in the SUA would have minor adverse impacts on wildlife from the risk of birds, mammals, and fish ingesting residual chaff and flare components that reach the surface of the Gulf of Mexico.

Marine Mammal Protection Act (MMPA) take authorization and Endangered Species Act (ESA) Section 7 consultation between the Air Force and the National Marine Fisheries Service (NMFS) for training activities in the Warning Areas that include contract ADAIR and F-22 FTU operations involving chaff and flare use are ongoing. The effect of chaff and flare components during training operations in the Warning Areas on federally listed marine mammals and sea turtles is being programmatically evaluated, and that programmatic evaluation includes training operations similar to and within the limits of the proposed contract ADAIR and temporary F-22 FTU operations. Because aircraft operations at the Eglin AFB airfield or ECP

as well as air-to-air training operations without the use of defensive countermeasures in the Warning Areas would have no effect on listed species, these activities would proceed without any further MMPA or ESA permitting and consultations. The use of defensive countermeasures over the Warning Areas during contract ADAIR and F-22 FTU operations would only proceed following the successful completion of programmatic MMPA take authorization and ESA Section 7 consultation between the Air Force and NMFS for activities in the Eglin Gulf Test and Training Range.

## **Land Use**

Under Alternative 1, under all Noise Scenarios at Eglin AFB, an overall short-term, temporary increase in newly exposed area surrounding Eglin AFB affected by the 65- to 85-dBA DNL would occur. An estimated additional 91 acres (ac) of land currently zoned for residential use off Eglin AFB would be within the 65- and 70-dBA DNL contours under the High Noise Scenario and an estimated 91 ac under the Medium, and Low Noise Scenarios. All Noise Scenarios represent over a 50 percent temporary increase to the population residing under the 80 dB DNL contour. The increased noise under the Alternative 1 High, Medium, and Low Noise Scenarios in limited areas designated as residential land use surrounding Eglin AFB would potentially have a minor to moderate and short-term impact on land use.

Under Alternative 2, under all Noise Scenarios at Eglin AFB, an overall short-term, temporary increase in newly exposed area surrounding Eglin AFB affected by the 65- to 85-dBA DNL would occur. An estimated additional 102 ac of land currently zoned for residential use off Eglin AFB would be within the 65- and 70-dBA DNL contours under the High Noise Scenario; an estimated 92 ac under the Medium Noise Scenario; and an estimated 100 ac under the Low Noise Scenario. All Noise Scenarios represent over a 60 percent increase to the population residing under the 80 dB DNL contour. The increased noise under the Alternative 2 High, Medium, and Low Noise Scenarios in limited areas designated as residential land use surrounding Eglin AFB would potentially have a minor to moderate and short-term impact on land use.

Under Alternative 3, under all Noise Scenarios at Eglin AFB, an overall increase in newly exposed area surrounding Eglin AFB affected by the 65- to 85-dBA DNL would occur. An estimated additional 34 ac of land currently zoned for residential use off Eglin AFB would be within the 65- and 70-dBA DNL contours under the High Noise Scenario; an estimated 4 ac under the Medium Noise Scenario; and an estimated 3 ac under the Low Noise Scenario. All Noise Scenarios represent less than 9 percent increase to the population residing under the 80 dB DNL contour. The increased noise under the Alternative 3 High, Medium, and Low Noise Scenarios in limited areas designated as residential land use surrounding Eglin AFB would potentially have a minor and long-term impact on land use.

There would be no change to land use patterns, land ownership, land management plans, or special use areas around ECP as a result of the Proposed Action under Alternative 4. There would be no increase in areas designated as residential land use under the High, Medium, or Low Noise Scenarios; however, people do reside in the area (within other land use designations). All Noise Scenarios represent a zero to 16 percent increase to population depending on noise contour. Because no designated residential land use areas would be affected by noise and only a small number of people would potentially be impacted by increased noise in some areas surrounding ECP under all Noise Scenarios, there would be minor and long-term impacts on land use.

## **Socioeconomics**

There would be a substantial temporary increase in areas zoned for residential and commercial land uses subject to greater than 65-dBA DNL under Alternatives 1 and 2. The temporary increase in noise at these commercial and residential properties would lead to a short-term reduction in desirability to live and work at these properties until the F-22 FTU aircraft departure from Eglin AFB. Therefore, there would be moderate short-term adverse impacts on income and employment from noise under the Alternatives 1 and 2. There would not be a substantial increase in areas zoned for residential and commercial land uses subject to greater than 65-dBA DNL under Alternatives 3 and 4. Therefore, there would be no adverse impacts on income and employment from noise under Alternatives 3 and 4. Long-term, potentially minor, beneficial impacts would occur from increased expenditures in the Region of Influence (ROI) associated with the contract ADAIR operations and maintenance for Alternatives 2, 3, and 4.

## **Environmental Justice and Protection of Children**

There would be no disproportionate impacts on minority populations or low-income communities under Alternatives 1, 2, 3, or 4. No elderly care facilities were identified as POIs and there would be no increased health risks to elderly populations under Alternatives 1, 2, 3, or 4. Under Alternatives 1 and 2, the DNL would temporarily increase by 4-dBA at Eglin Elementary School under the High Noise Scenario, and by 3-dBA under the Medium and Low Noise Scenarios, placing the school within the 70-dBA DNL contour under the High Noise Scenario. Other schools and child development centers proximate to Eglin AFB would experience a temporary 3-dBA DNL increase under all three Noise Scenarios. The increase in noise at these schools and child development centers under Alternatives 1 and 2 would temporarily expose youth populations to additional health risks, as increased noise in the classroom, especially at or above 70-dBA DNL, would potentially impact student performance and subject children to cognitive and academic risks until the F-22 FTU departs Eglin AFB.

## **Cultural Resources**

No ground disturbance would take place as part of the Proposed Action under Alternatives 1, 2, 3, or 4; therefore, no archaeological resources would be disturbed. No Traditional Cultural Properties or Sacred Sites have been identified at Eglin AFB or ECP. No significant buildings greater than 50 years old are included in the APE at Eglin AFB or ECP. Because no new construction is being proposed, there would be no potential for visual impact to the Strategic Air Command Alert Historic District at Eglin AFB. There are 90 National Register of Historic Places-listed architectural resources recorded beneath the SUA. Noise analyses of the High, Medium, and Low Noise Scenarios indicate that there would be a negligible increase in noise from additional contract ADAIR subsonic flight operations in the SUA. Therefore, per guidance set forth in 36 CFR 800.4(d)(1), it has been determined no historic properties would be affected by implementation of the Proposed Action under Alternatives 1, 2, 3, or 4. The Florida State Historic Preservation Office concurred with this determination.

## **Hazardous Materials and Wastes, Environmental Restoration Program Sites, and Toxic Substances**

Hazardous materials (HAZMAT) and wastes generated as a result of additional contract ADAIR and continued F-22 FTU operations would be stored and disposed in accordance with existing plans and procedures; therefore, no impacts from managing hazardous waste are expected from the Proposed Action under Alternatives 1, 2, and 3. Under Alternative 4, HAZMAT at ECP would be handled and tracked as required by the Airport Authority. There would be a minor impact from the increased HAZMAT use to support the additional contract ADAIR sorties at ECP. There would be no impact from the hazardous waste generation as all hazardous waste would be tracked and properly disposed of. An emergency fuel dump could occur in the SUA; however, due to the infrequent nature of emergency fuel dumps, as well as in-place safety precautions, these emergency procedures would not likely have adverse effects. Since no new construction or use of any additional facilities is being proposed, existing environmental restoration program sites would be unaffected and no impacts would be expected from asbestos-containing materials, lead-based paint, polychlorinated biphenyl-containing materials, or radon.

## **Reasonably Foreseeable Future Actions**

Routine construction and planned infrastructure improvements would continue to occur at and near Eglin AFB and ECP simultaneously with the Proposed Action. These routine projects and reasonably foreseeable future projects were considered for analysis the March 2022 EA, Alternative 1, and in this Supplemental EA. While the timing of some of the construction and infrastructure improvement projects may overlap with implementation with the Proposed Action and there is the potential for an incremental impact, these projects would be short-term, and the incremental impact would be negligible. Where there are potential impacts from the Proposed Action under Alternatives 1, 2, 3, and 4, the addition of reasonably foreseeable future projects does not significantly increase those impacts on any resources over the long term. No reasonably foreseeable future projects were identified for the SUA.

## **Mitigation**

The Supplemental EA analysis concluded that the Proposed Action and Alternatives would not result in significant environmental impacts; therefore, no mitigation measures are required.

No project-specific best management practices or environmental commitments are included in the Supplemental EA; however, standard best management practices are assumed, when applicable, in the Environmental Consequences section of the EA for each resource.

## Conclusion

***Finding of No Significant Impact.*** After review of the Supplemental EA prepared in accordance with the requirements of NEPA; CEQ Regulations; and 32 CFR Part 989, *EIAP*, and which is hereby incorporated by reference, I have determined that the proposed activities to provide additional, dedicated contract ADAIR sorties to further improve the quality of training and readiness of pilots of the 33 FW located at Eglin AFB, Florida, as well as temporary continued F-22 FTU operations, with the exception of the use of defensive countermeasures in the Warning Areas, would not have a significant impact on the quality of the human or natural environment under any of the analyzed alternatives. The use of defensive countermeasures during training operations in the Warning Areas would not occur until after the completion of a take authorization under the MMPA and Section 7 consultation under the ESA for the Eglin Test and Training Range. Accordingly, an Environmental Impact Statement will not be prepared. This decision has been made after considering all submitted information, including a review of any public and agency comments received during the 30-day public comment period, and considering a full range of reasonable alternatives that meet project requirements and are within the legal authority of the Air Force.

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## **LIST OF ACRONYMS AND ABBREVIATIONS**

33 FW	33rd Fighter Wing
325 FW	325th Fighter Wing
96 CEG/CEIEC	96th Civil Engineer Group/Environmental Compliance
96 TW	96th Test Wing
ACAM	Air Conformity Applicability Model
ac	acres
ACC	Air Combat Command
ADAIR	adversary air
AFB	Air Force Base
AFMAN	Air Force Manual
AFOSH	Air Force Occupational Safety and Health
AGE	aerospace ground equipment
AICUZ	Air Installations Compatible Land Use Zones
Air Force	United States Department of the Air Force
AMU	Aircraft Maintenance Unit
APE	Area of Potential Effects
AQCR	Air Quality Control Region
ATC	Air Traffic Control
ATCAA	Air Traffic Control Assigned Airspace
BASH	bird/wildlife-aircraft strike hazard
CAF	Combat Air Forces
CDDAR	Crash Damaged or Disabled Aircraft Recovery
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CO	carbon monoxide
CO <sub>2</sub> e	carbon dioxide equivalent
CSEL	C-weighted sound exposure level
dB	decibel(s)
dBA	A-weighted decibel(s)
DCMA	Defense Contract Management Agency
DNL	day-night average sound level
DoD	Department of Defense
EA	Environmental Assessment
ECP	Northwest Florida Beaches International Airport
EGTTR	Eglin Gulf Test and Training Range
EIAP	Environmental Impact Analysis Process
EIS	Environmental Impact Statement
ESA	Endangered Species Act
FAA	Federal Aviation Administration
FDEP	Florida Department of Environmental Protection
FL	Flight Level
ft	foot/feet
FTU	Formal Training Unit(s)
gal	gallon(s)
GRASI	Gulf Regional Airspace Strategic Initiative
HAZMAT	hazardous materials
INST	Instruction
L <sub>dnmr</sub>	onset-rate adjusted monthly day-night average sound level
LTO	landing and takeoff
MMPA	Marine Mammal Protection Act
mi	mile(s)
MSL	mean sea level
NAAQS	National Ambient Air Quality Standards



NASA	National Aeronautics and Space Administration
NEPA	National Environmental Policy Act
NH <sub>3</sub>	ammonia
NHPA	National Historic Preservation Act
NM	nautical mile(s)
NMFS	National Marine Fisheries Service
NO <sub>x</sub>	nitrogen oxides
OSHA	Occupational Safety and Health Administration
Pb	lead
PCB	polychlorinated biphenyl
PM <sub>10</sub>	particulate matter less than 10 microns
PM <sub>2.5</sub>	particulate matter less than 2.5 microns
POI	point of interest
PSD	Prevention of Significant Deterioration
psf	pound(s) per square foot
Q-D	quantity-distance
ROAA	Record of Air Analysis
ROI	region of influence
SO <sub>x</sub>	sulfur oxides
SUA	special use airspace
TGO	touch and go
tpy	ton(s) per year
US	United States
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
VOC	volatile organic compound
WHMP	Wildlife Hazard Management Plan

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## CHAPTER 1 PURPOSE OF AND NEED FOR ACTION

### 1.1 INTRODUCTION

The United States Department of the Air Force (Air Force) is tasked with the defense of the United States (US) and fulfillment of Title 10 US Code Armed Forces, Subtitle D – Air Force (§§ 9011 through 9842). The Air Force mission is to fly, fight, and win...airpower anytime, anywhere. To accomplish this mission, it is critical that combat pilots, and the Airmen supporting them, adequately train to attain proficiency on tasks they must execute during times of war and further to sustain this proficiency as they serve in the Air Force. Increasingly, fighter pilots of the Combat Air Forces (CAF) have been operating at degraded levels of proficiency and training readiness due to diminishing fiscal resources. For the purpose of this Supplemental Environmental Assessment (EA), the CAF includes all active duty, Air National Guard, and Air Force Reserve units in both formal training units (FTUs) and operational units. For a detailed introduction to the CAF pilot readiness crisis, refer to the *EA for Combat Air Forces Adversary Air, Eglin Air Force Base, Florida* (hereafter referred to as the March 2022 EA).

The Environmental Impact Analysis Process (EIAP) allows the Air Force to thoroughly examine the Proposed Action and to identify potential issues affecting the environment during the decision-making process. A description of the EIAP and associated laws and regulations can be found in **Appendix A**. The EIAP, in compliance with National Environmental Policy Act (NEPA), includes public and agency review of information pertinent to the Proposed Action and alternatives. Information about stakeholder coordination and consultation, as well as letters sent and responses received, are included in **Appendix A**.

#### 1.1.1 Background

Air Force readiness is currently affected by several issues including training, weapon system sustainment, and facilities. Training in particular has become an increasing concern as worldwide commitments, high operations tempo, and fiscal and manpower limitations detract from available training resources. As an example, the Budget Control Act of 2011, as implemented in 2013, reduced flying hours by 18 percent and temporarily stood down 17 of 40 combat-coded squadrons (The Heritage Foundation, 2015). The Air Force prioritized readiness in 2014, but shortfalls in readiness were not eliminated and have persisted through the present day, as indicated by the Air Force Chief of Staff's acknowledgement of the lack of readiness in more than half of the service's combat units. In the training arena, readiness issues are manifested in multiple ways, such as 1) an inability to internally support contract adversary air (ADAIR) without a corresponding sacrifice in scarce flying hours and normal training objectives; 2) a lack of advanced threat aircraft to provide representative ADAIR for realistic training; 3) a fighter pilot manning crisis, necessitating increased pilot production beyond sustainable levels; and 4) granting excessive syllabus waivers to graduates of the Air Force Weapons School due to inadequate ADAIR support during final training phases.

The Air Force has identified contract ADAIR as one avenue to fulfilling essential ADAIR sorties, improving the quality of training and readiness of CAF pilots, and allowing the Air Force to recapitalize other valuable assets and training time. The Air Force would implement contract ADAIR support at bases hosting Air Force 5th generation fighter units, such as Eglin Air Force Base (AFB), Florida. Eglin AFB started planning for permanent contract ADAIR support in 2017. However, on 10 October 2018, Hurricane Michael damaged or destroyed nearly all facilities at nearby Tyndall AFB, requiring the relocation of several missions. Damage from Hurricane Michael provided the impetus and opportunity to accomplish mission restructuring and significant installation development at Tyndall AFB. During this restructuring, Eglin AFB has been temporarily supported by contract ADAIR operating from Tyndall AFB as analyzed in the *EA for Combat Air Forces Contracted Adversary Air from Tyndall Air Force Base* (Air Force, 2020). During this time, the number of sorties provided by contract ADAIR at Tyndall AFB has not been enough to fully support the training needs of the 33 FW at Eglin AFB.

In 2022, the Air Force approved permanent contract ADAIR support for Eglin AFB through the contracting of an estimated 12 contract ADAIR aircraft to fly roughly 2,400 annual sorties to support the 33rd (33) Fighter Wing (FW) and other units at Eglin AFB. The Air Force proposed to establish contract ADAIR

support through contract ADAIR operations from either Eglin AFB or from Northwest Florida Beaches International Airport (ECP). A final decision on the location of contract ADAIR support for Eglin AFB has not been made.

As part of the restructuring for Tyndall AFB in the aftermath of Hurricane Michael, Eglin AFB was selected as the interim location for the F-22 Formal Training Unit (FTU), with some split-based training and aircraft maintenance occurring at Tyndall AFB, utilizing the flight simulators and the low observable coatings maintenance facilities that survived the hurricane (*Special EA for Emergency Beddown of the F-22 Formal Training Unit and Associated T-38 Aircraft from Tyndall AFB to Eglin AFB, Florida*. Air Force, 2019).

Though permanent relocation of the F-22 FTU to Langley AFB was analyzed in an Environmental Impact Statement (EIS) and issuance of the Record of Decision (ROD) in June of 2021, a final decision regarding the permanent beddown of the F-22 FTU was delayed in December 2021.

Under the March 2022 EA, permanent contract ADAIR operating out of Eglin AFB would only occur after the relocation of all aircraft and personnel associated with the F-22 FTU. Therefore, contract ADAIR support could not operate from Eglin AFB while the F-22 FTU is present until additional NEPA analysis is completed.

To meet the training needs of the 33 FW and other units operating from Eglin AFB, additional contract ADAIR sorties are required. Therefore, this Supplemental EA evaluates the proposal to add contract ADAIR sorties in support of training operations at Eglin AFB above what was previously analyzed in the March 2022 EA. Further, this Supplemental EA also evaluates the continued short-term operation of the F-22 FTU at Eglin AFB in 2023 along with the implementation of permanent contract ADAIR operations in support of Eglin AFB.

### 1.1.2 Location

Eglin AFB is located in the Florida Panhandle in Okaloosa, Santa Rosa, and Walton Counties (**Figure 1-1**), south of Crestview; southwest of Niceville and Valparaiso; northeast of Fort Walton Beach, and southwest of Defuniak Springs. Portions of Eglin AFB extend into the Gulf of Mexico, Choctawhatchee Bay, and the Santa Rosa Sound. In addition to analyzing the potential to host contract ADAIR operations on base, one civilian airport is being analyzed for possible use by a contract ADAIR service provider to support Air Force operations. The civilian airport proposed for use (**Figure 1-1**), ECP, is further described in **Section 2.5**.

Eglin AFB is home to the 96th Test Wing (96 TW) and subordinate to the Air Force Materiel Command. The 96 TW is the test and evaluation center for Air Force air-delivered weapons, navigation and guidance systems, Command and Control systems, and Air Force Special Operations Command systems. The 96 TW provides expert evaluation and validation of the performance of systems throughout the design, development, acquisition, and sustainment process to ensure the warfighter has technologically superior, reliable, maintainable, sustainable, and safe systems. The 33 FW is assigned to the Air Education and Training Command and is a tenant unit on Eglin AFB. The 33 FW mission is to train world-class 5th generation F-35A Lightning II pilots, maintainers, air battle managers, and intelligence personnel. The 33 FW "Nomads," a graduate flying and maintenance training wing for the F-35A Lightning II, is subordinate to the 19th Air Force. The special use airspace (SUA) proximate to Eglin AFB provides a critical venue to train F-35A aircrews (**Figure 1-1**).

## 1.2 PURPOSE OF THE ACTION

The purpose of the Proposed Action is to provide additional, dedicated contract ADAIR sorties to further improve the quality of training and readiness of fighter aircrews of the 33 FW and other units supported by Eglin AFB. The purpose for establishing the contract ADAIR program has been discussed in detail in the March 2022 EA.

### 1.3 NEED FOR THE ACTION

The need for the action is to provide better and more realistic training for the flight training program in support of units at Eglin AFB. The need for establishing program contract ADAIR has been discussed in detail in the March 2022 EA. As the relocation of the F-22 FTU to JBLE-Langley is delayed, there is a further need to consider implementation of contract ADAIR with the continuation of the F-22 FTU aircraft operating from Eglin AFB until June 2023, and the departure of the F-22 FTU by fall of 2023.

### 1.4 DECISION TO BE MADE

This Supplemental EA evaluates the potential environmental consequences associated with increasing the number of contract ADAIR aircraft and operations to support the 33 FW and other units supported by Eglin AFB, in light of the uncertainty regarding continued F-22 FTU operations at Eglin AFB. Based on the analysis in this Supplemental EA, the Air Force will make one of three decisions regarding the Proposed Action: 1) determine the potential environmental consequences associated with the Proposed Action or alternatives are not significant and sign a Finding of No Significant Impact (FONSI); 2) initiate preparation of an EIS if it is determined that significant impacts would occur through implementation of the Proposed Action or alternatives; or 3) select the No Action Alternative, whereby the Proposed Action would not be implemented. As required by NEPA and its implementing regulations, preparation of an environmental document must precede final decisions regarding the proposed project and be available to inform decision-makers of the potential environmental impacts.

### 1.5 INTERAGENCY AND INTERGOVERNMENTAL COORDINATION AND CONSULTATIONS

The environmental analysis process, in compliance with NEPA guidance, includes public and agency review of information pertinent to the Proposed Action and alternatives. Further, if required, compliance with Section 7 of the Endangered Species Act (ESA) and Section 106 of the National Historic Preservation Act (NHPA) is conducted through consultation with the US Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) and the State Historic Preservation Office (SHPO), respectively. Coordination with NMFS (for whales, dolphins, and porpoises) and USFWS (for manatees) is required to ensure compliance with the Marine Mammal Protection Act (MMPA). Further, an assessment of effects on Essential Fish Habitat (EFH) under the Magnuson-Stevens Fishery Conservation and Management Act will be considered and consultation with NMFS conducted, if necessary. Tribal consultation is also required under the NHPA. Consultation with the SHPO and for the Coastal Zone Management Program (CZMP) is through the Florida Department of Environmental Protection (FDEP), and the Florida State Clearinghouse, which is the State's single point-of-contact for the review of federal projects and federally funded activities. Information about stakeholder coordination including the letters and responses and the public comment period is included in **Appendix A**.

### 1.6 APPLICABLE LAWS AND ENVIRONMENTAL REGULATIONS

Implementation of the Proposed Action would involve coordination with several organizations and agencies. Adherence to the requirements of specific laws, regulations, best management practices, and necessary permits are assumed for each resource section in **Chapter 3**.

#### 1.6.1 *National Environmental Policy Act*

NEPA requires that federal agencies consider potential environmental consequences of proposed actions. The law's intent is to assure that all branches of government give proper consideration to the environment prior to undertaking any major federal action that significantly affects the environment. The Council on Environmental Quality (CEQ) was established under NEPA for the purpose of implementing and overseeing federal policies as they relate to this process. In 1978, the CEQ issued Regulations for Implementing the Procedural Provisions of the NEPA (40 Code of Federal Regulations [CFR] Parts 1500 through 1508 [CEQ 1978]). On 20 May 2022, CEQ updated NEPA rules, subject to congressional review (87 Federal Register

23453 through 23470), which are being followed for this EA. CEQ regulations specify that an EA be prepared to:

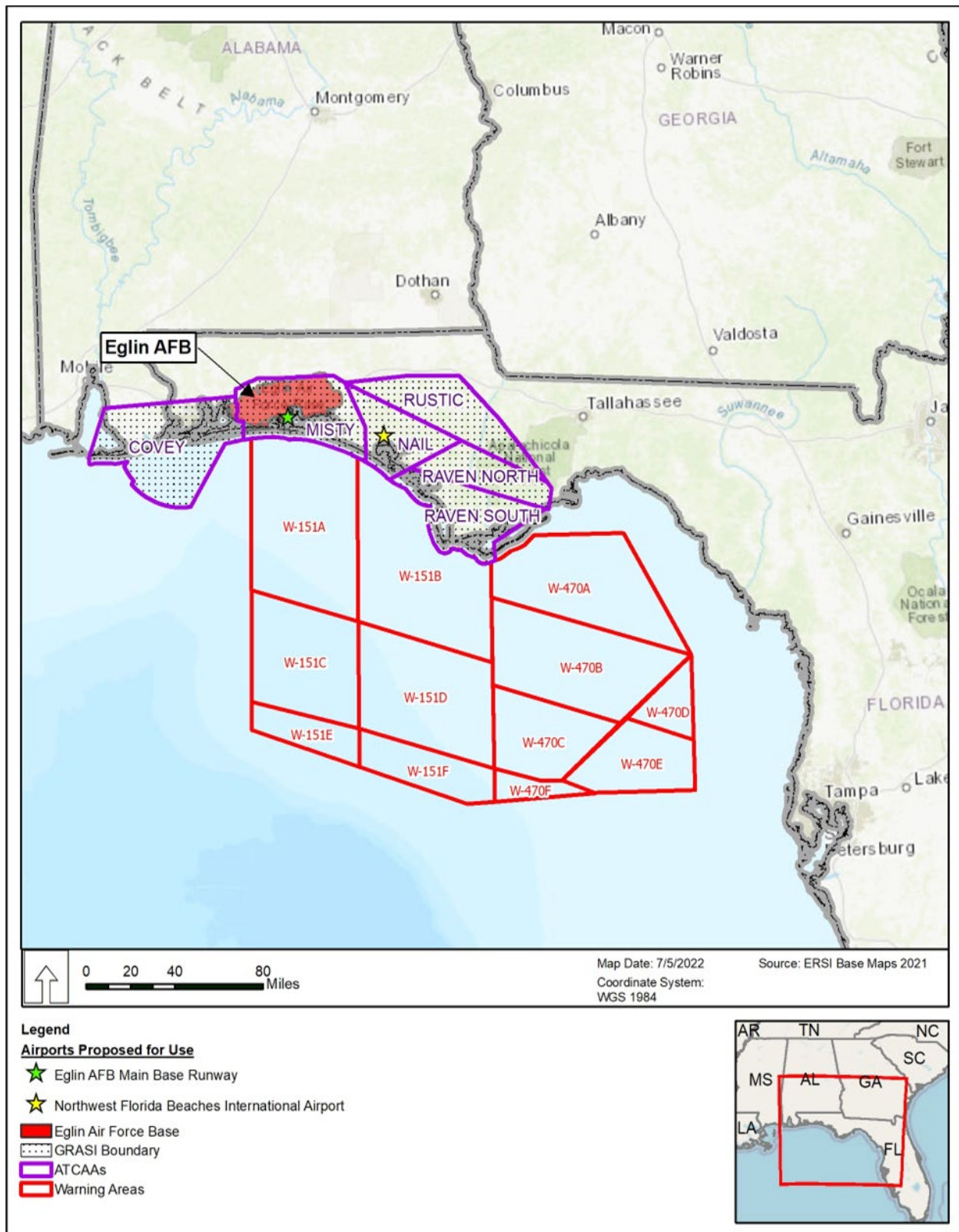
- briefly provide sufficient analysis and evidence for determining whether to prepare an EIS or a FONSI;
- aid in an agency's compliance with NEPA when no EIS is necessary; and
- facilitate preparation of an EIS when one is necessary.

The implementing regulation is 32 CFR §989, *et seq.*, and 32 CFR Part 989 *et seq.*, *EIAP* that provides a framework for how the Air Force implements CEQ regulations and achieves the goals set forth by NEPA. The EIAP allows the Air Force to thoroughly examine the Proposed Action and alternatives to determine potential issues affecting the environment during their decision-making process.

## 1.7 SCOPE OF THE ENVIRONMENTAL ANALYSIS

This EA has been prepared in accordance with the NEPA (42 US Code §§ 4321 through 4347), the CEQ Regulations (40 CFR Parts 1500 through 1508), and 32 CFR Part 989 *et seq.* NEPA ensures that environmental information, including the anticipated environmental consequences of a proposed action, is available to the public, federal and state agencies, and the decision-maker before decisions are made and before actions are implemented.

**Supplemental EA for Eglin AFB Combat Air Forces Adversary Air Plus Up  
with F-22 Formal Training Unit  
Final**



**Figure 1-1. Regional Map of Eglin Air Force Base, Florida, Locations of Airports Proposed for Use, and Special Use Airspace Proposed for Use for Contract ADAIR.**

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## CHAPTER 2                      DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

### 2.1                      PROPOSED ACTION

The Air Force is proposing to provide an additional 600 annual dedicated contract ADAIR sorties for CAF training in support of Eglin AFB. The description of the Proposed Action for establishing contract ADAIR has been discussed in detail in the March 2022 EA. The baseline for the previous analysis assumed the F-22 FTU would depart Eglin AFB prior to permanent contract ADAIR operating from any alternative location. As the relocation of the F-22 FTU to JBLE-Langley is delayed, this Proposed Action includes contract ADAIR operations with the continuation of F-22 FTU operations at Eglin AFB.

The F-22 FTU will remain at Eglin AFB for only a short-time. With the approval of the FY 2023 National Defense Authorization Act, Congress directed the Air Force to retain the F-22A Block 20 aircraft and indicated that they should continue to be used for the FTU mission. The Air Force plans to relocate the 30 F-22A aircraft temporarily located at Eglin AFB to JBLE-Langley over the transition period of April through August 2023 (Air Force, 2021). The last F-22 FTU class held at Eglin AFB will perform the bulk of their flying requirements within the Eglin AFB airfield airspace structure by the end of March 2023. F-22 FTU operations in the SUA will continue through the end of May, while operations in the Eglin AFB airfield airspace structure will substantially decrease during that same period, as training operations from the end of March through the end of May 2023 will no longer include practice landings with each sortie.

The Proposed Action includes additional contract ADAIR aircraft, maintenance, personnel, and sorties at the same alternative locations analyzed in the March 2022 EA. The Proposed Action also includes increased operations, increased use of defensive countermeasures, and accounts for F-22 FTU as a part of baseline operations. The additional contract ADAIR aircraft would not use any additional airspace beyond what was analyzed in the March 2022 EA.

The F-22 FTU, including F-22 and T-38 aircraft, has been operational from Eglin AFB since 2019. The Proposed Action would include implementing contract ADAIR with the existing F-22 FTU. The F-22 FTU would not require additional facilities at Eglin AFB. No additional staff would be required for continued operation of the F-22 FTU at Eglin AFB. No additional sorties would be flown by the F-22 FTU as part of the Proposed Action. Need for office space and briefing areas for pilots and Aircraft Maintenance Unit (AMU) facilities, aircraft maintenance hangar space, tool and equipment storage, aerospace ground equipment (AGE) storage, vehicle parking, and aircraft parking ramp space is met with existing facilities.

#### 2.1.1 *Contract Adversary Air*

Contract ADAIR support would be increased and would include additional aircraft, pilots, maintenance personnel, and sorties as outlined below. The suite of aircraft proposed for use for contract ADAIR support would be the same as those analyzed in the March 2022 EA. Similarly, the additional aircraft and personnel would not require support facilities, hangar space, or AMU facilities beyond what was previously analyzed.

#### 2.1.2 *Personnel*

The contract personnel necessary to support the additional contract ADAIR for Eglin AFB would increase from 78 to 97 maintenance personnel and from 15 to 19 contracted pilots at the selected location.

#### 2.1.3 *Sorties*

The Proposed Action includes contracting an estimated four (4) additional contract ADAIR aircraft to fly roughly 600 additional annual ADAIR sorties to support the 33 FW and other units at Eglin AFB, potentially including the F-22 FTU. This number of sorties does not include sorties expected for contractor training activities and aircraft leaving for or returning from either maintenance or other deployments. The proposed number of sorties varies depending on the alternative (refer to **Section 2.5**).

Air Force convention is to describe daily flying schedules in terms of total sorties and a “flight turn pattern.” A flight turn pattern allows the CAF to fly available aircraft multiple times per day to maximize available flying opportunities for assigned pilots. Flight turn patterns are designed to allow aircraft to fly, land, complete appropriate post flight inspections, refuel, and fly again. The maximum flight turn pattern that would be flown by contract ADAIR support would be an 8 x 6. Contract ADAIR pilots may fly minimal additional traffic patterns to maintain their currency and proficiency as required. Additional traffic patterns would be anticipated on no more than 5 percent of the annual sortie total.

Refer to **Section 2.1.7** for more information on training operations. Contract ADAIR aircraft would not normally fly during environmental night hours (10:00 p.m. to 7:00 a.m. local time; refer to Air Force Handbook [AFH] 32-7084, *Air Installations Compatible Use Zones Program Manager’s Guide*) but may support local requirements as approved by Eglin AFB authorities.

### 2.1.4 Airspace Use

The locations of the SUA that would be used for the additional contract ADAIR support would be the same as those previously analyzed in the March 2022 EA and are depicted on **Figure 1-1 (Section 1.1.2)**. The SUA proposed for use includes Warning Area W-151 flown in conjunction with the Gulf Regional Airspace Strategic Initiative (GRASI) Air Traffic Control Assigned Airspace (ATCAA), as well as the Warning Area W-470. The GRASI ATCAA consists of the Covey, Misty, Nail, Rustic, Raven North, and Raven South ATCAA. Current and projected annual contract ADAIR training activities in the SUA are estimated to include the 2,400 sorties analyzed previously in the March 2022 EA as well as an additional 600 sorties included in the current Proposed Action. There would be no modification to SUA under the Proposed Action. **Table 2-1** identifies current and projected annual training activities at Eglin AFB.

**Table 2-1  
Current and Projected Annual Training Activities by Eglin Air Force Base**

<b>Airspace</b>	<b>Current Altitude<sup>1</sup></b>	<b>Baseline Training Sorties without F-22 FTU<sup>2</sup></b>	<b>Baseline Training Sorties with F-22 FTU<sup>2</sup></b>	<b>Previously Analyzed Contract ADAIR Training Sorties<sup>3</sup></b>	<b>Proposed Additional Contract ADAIR Training Sorties</b>
W-151A, W-151B, W-151C, W-151D, W-151E, W-151F	Surface to Unlimited	2,729	4,154	1,862	465
GRASI ATCAA <sup>4</sup>	FL240 to FL600	701	1,142	466	116
W-470A, W-470B, W-470C, W-470D, W-470E	Surface to Unlimited	120	1,545	72	19
<b>Total Proposed Airspace Sorties</b>		<b>3,550</b>	<b>6,841</b>	<b>2,400</b>	<b>600</b>

Notes:

<sup>1</sup> No change to current minimum flight altitude is proposed.

<sup>2</sup> Source: Email, Lt Col McGarry, 33 FW/XP, 16 July 2022

<sup>3</sup> As analyzed in the March 2022 EA.

<sup>4</sup> Includes the Covey, Misty, Nail, Rustic, Raven North, and Raven South ATCAA.

ADAIR = adversary air; AFB = Air Force Base; ATCAA= Air Traffic Control Assigned Airspace; FL = flight level (vertical altitude expressed in hundreds of feet); ft = feet; GRASI = Gulf Regional Airspace Strategic Initiative; MSL = mean sea level; W = Warning Area

### 2.1.5 Defensive Countermeasures and Other Munitions

Contract ADAIR aircraft would operate with advanced radar and electronic targeting systems during engagements and employ chaff and flares (e.g., RR-188 chaff and M206 flares or similar) during training sortie operations in the SUA authorized for its use. No other live or inert training munitions would be used. For additional information on chaff and flare use, see the March 2022 EA.

The existing and estimated additional chaff and flare use are presented in **Table 2-2**. Frequent training in use of chaff and flares by aircrews to master the timing of deployment and the capabilities of the devices is a critical component of ADAIR training. Defensive countermeasures, similar to RR-188 chaff and M206 flares, currently authorized for use in each SUA are indicated in **Table 2-2**. While 100 percent of the requirement may not be allocated or expended, this amount is carried forward in this analysis to determine potential environmental impact associated with defensive countermeasures.

**Table 2-2  
Existing and Proposed Defensive Countermeasure Use in the Warning Areas**

Warning Area <sup>1</sup>	Countermeasure Type	Current Baseline Use without F-22 FTU <sup>2</sup>	Current Baseline Use with F-22 FTU <sup>2</sup>	Analyzed Contract ADAIR Amount <sup>3</sup>	Proposed Additional Contract ADAIR Amount <sup>3</sup>
W-151A, W-151B, W-151C, W-151D, W-151E, W-151F	Chaff	10,945	12,127	4,942	1,277
	Flares	15,945	18,695	7,200	1,862
W-470A, W-470B, W-470C, W-470D, W-470E, W-470F	Chaff	338	1,520	153	39
	Flares	493	3,243	223	57

Notes:

<sup>1</sup> Defensive countermeasures are not authorized for use in the Air Traffic Control Assigned Airspace.

<sup>2</sup> Baseline defensive countermeasure use is based on Fiscal Year 2018 allocations and includes chaff and flares used by CAF self-generated Red Air support.

<sup>3</sup> This amount is not additive and reflects a 25 percent savings in the amount of chaff and flares used by the CAF due to no longer being tasked to fly CAF self-generated Red Air support.

ADAIR = adversary air; CAF = Combat Air Forces

## 2.2 SELECTION STANDARDS

To assess viable alternatives for additional contract ADAIR support, the same selection standards used in the March 2022 EA listed below still apply. Based on the previous analysis and FONSI, only Eglin AFB and ECP were considered viable options to support contract ADAIR. The *Special EA for Emergency Beddown of the F-22 Formal Training Unit and Associated T-38 Aircraft from Tyndall AFB to Eglin AFB, Florida* (Air Force, 2019) evaluated the alternatives for the temporary relocation of the F-22 FTU. The Fifth Generation FTU Optimization EIS (Air Force, 2021) evaluated alternative locations for the permanent F-22 FTU mission.

- Proximity to Airspace:** The airports proposed for use must be within 100 nautical miles (NM) from the most frequently utilized SUA proposed for use by contract ADAIR to optimize training time.
- Mission:** Proposed contract ADAIR must not displace, interfere with, detract from, or reduce other Air Force missions or ongoing activities on base or at the selected airport. Further, additional contract ADAIR support must be collocated with previously approved contract ADAIR support.
- Facilities:** Alternatives should have facilities or the space available for additional facilities that meet the ADAIR contractor's needs to provide the contracted support.
- Cost and Time:** CAF fighter aircrew readiness is currently an urgent need; viable ADAIR alternatives must be able to support ADAIR activities in the near term. Solutions that cannot be

implemented within the next 2 years, at the latest, would not meet the purpose of and need for the initiative. The Air Force has a strong preference for solutions that could be implemented according to mission timelines.

## 2.3 SCREENING OF ALTERNATIVES

Given the nature of the Proposed Action, as effectively a contract ADAIR plus up, it is only implementable at locations previously approved to provide contract ADAIR support to Eglin AFB. This includes Eglin AFB and ECP. A comparison of reasonable alternatives is provided in **Table 2-3** and are described in greater detail in **Section 2.5**. These alternatives include the 12 contract ADAIR aircraft and estimated 2,400 annual contract ADAIR sorties previously analyzed in the March 2022 EA.

- **Alternative 1** – Establish contract ADAIR capabilities at Eglin AFB, as described in the March 2022 EA, Alternative 1, operating with the F-22 FTU mission temporarily continuing at Eglin AFB.
- **Alternative 2** – Establish contract ADAIR capabilities at Eglin AFB with an estimated 16 contract ADAIR aircraft providing 3,000 annual contract ADAIR sorties with the F-22 FTU mission temporarily continuing at Eglin AFB. Alternative 2 represents an addition of 600 contract ADAIR sorties and four contract ADAIR aircraft to Alternative 1.
- **Alternative 3** – Establish contract ADAIR capabilities at Eglin AFB as described in the March 2022 EA, Alternative 1, plus an additional 600 contract ADAIR sorties and four contract ADAIR aircraft for a total of 3,000 annual contract ADAIR sorties and 16 contract ADAIR aircraft.
- **Alternative 4** – Establish contract ADAIR capabilities at ECP as described in the March 2022 EA, Alternative 3, plus an additional 600 contract ADAIR sorties and four contract ADAIR aircraft for a total of 3,000 annual contract ADAIR sorties and 16 contract ADAIR aircraft.

**Table 2-3  
Comparison of Alternatives**

Alternative Actions	Selection Standard				
	1. Airspace Proximity	2. Mission Compatibility	3. Available Facilities	4. Cost and Time	Meets Purpose and Need
Alternative 1	Yes	Yes	Yes	Yes	<b>Yes</b>
Alternative 2	Yes	Yes	Yes	Yes	<b>Yes</b>
Alternative 3	Yes	Yes	Yes	Yes	<b>Yes</b>
Alternative 4	Yes	Yes	Yes	Yes	<b>Yes</b>

## 2.4 ALTERNATIVE ACTIONS ELIMINATED FROM FURTHER CONSIDERATION

Eleven alternatives were considered and eliminated from detailed consideration in the March 2022 EA because they would not meet the purpose of and need for the action or the selection standards. Those alternatives included additional regional airports, nearby Department of Defense (DoD) installations, and establishment of an Air Force aggressor squadron or tasking organic CAF units to provide the capabilities. While analyzed in the Eglin AFB ADAIR March 2022 EA, Bob Sikes Airport is not carried forward for detailed analysis in this Supplemental EA as it was not included in the Eglin AFB ADAIR March 2022 signed FONSI, and thus does not meet Selection Standard 2 (refer to **Section 2.3**).

## 2.5 DESCRIPTION OF THE ALTERNATIVES CONSIDERED FOR DETAILED ANALYSIS

NEPA and the CEQ regulations mandate the consideration of reasonable alternatives to the Proposed Action. “Reasonable alternatives” are those that meet the purpose of and need for the Proposed Action. Four alternative actions meet the purpose of and need for the action, satisfy the criteria set forth in the

selection standards, and were carried forward for further detailed analysis in this Supplemental EA. The No Action Alternative provides a benchmark to compare potential environmental impacts of the Proposed Action. Alternatives carried forward for evaluation are described in **Sections 2.5.1** through **2.5.4**.

#### ***2.5.1 Alternative 1: Contract Adversary Air (ADAIR) Operating Out of Eglin Air Force Base (Eglin) with the F-22 Formal Training Unit (FTU)***

Under Alternative 1, the Air Force would establish contract ADAIR capabilities as analyzed in March 2022 EA, Alternative 1 with an estimated 12 contract ADAIR aircraft providing 2,400 annual sorties operating from Eglin AFB and in the SUA. Further, under Alternative 1, the F-22 FTU mission would remain at Eglin AFB until it is relocated to JBLE-Langley (Air Force, 2021). Operations and the AMU would be in existing facilities and aircraft parking would use existing ramp space. The contract ADAIR aircraft, maintenance, and personnel would be as described under Proposed Action for Eglin AFB and previously analyzed in the March 2022 EA. This alternative analyzes the previously evaluated 33 FW and contract ADAIR operations (sorties, SUA use, and defensive countermeasure use) combined with the temporary continuation of the F-22 FTU mission at Eglin AFB and in the SUA.

#### ***2.5.2 Alternative 2: Additional (Plus Up) Contract Adversary Air (ADAIR) Operating Out of Eglin AFB with the F-22 Formal Training Unit (FTU)***

Under Alternative 2, the Air Force would establish contract ADAIR capabilities as analyzed in the March 2022 EA, Alternative 1 plus an additional four contract ADAIR aircraft for a total of 16 contract ADAIR aircraft providing an additional 600 contract ADAIR sorties operating from Eglin AFB for an annual total of 3,000 contract ADAIR sorties. This alternative analyzes the additional contract ADAIR operations combined with the temporary continuation of the F-22 FTU mission at Eglin AFB and in the SUA. The contract ADAIR aircraft, support facilities, hangar space, and operations and AMU facilities described under Proposed Action for Eglin AFB were previously analyzed in the March 2022 EA. There would be a negligible increase in the number of personnel, with an estimated 4 additional pilots and 19 additional maintenance personnel and would not increase potential environmental impacts beyond those previously analyzed.

#### ***2.5.3 Alternative 3: Additional (Plus Up) Contract Adversary Air (ADAIR) Operating Out of Eglin AFB without F-22 Formal Training Unit (FTU)***

Under Alternative 3, the Air Force would establish contract ADAIR capabilities as analyzed in March 2022 EA, Alternative 1 plus an additional four contractor aircraft for a total of 16 contractor aircraft providing an additional 600 contract ADAIR sorties operating from Eglin AFB for an annual total of 3,000 contract ADAIR sorties. The contract ADAIR aircraft, support facilities, hangar space, and operations and AMU facilities described under Proposed Action for Eglin AFB were previously analyzed in the March 2022 EA. There would be a negligible increase in the number of personnel, with an estimated four additional pilots and 19 additional maintenance personnel and would not increase potential environmental impacts beyond those previously analyzed. Under Alternative 3, the F-22 FTU mission would depart Eglin AFB before the arrival of additional contract ADAIR.

#### ***2.5.4 Alternative 4: Additional (Plus Up) Contract Adversary Air (ADAIR) Operating Out of Northwest Florida Beaches (ECP) with the F-22 Formal Training Unit (FTU)***

Under Alternative 4, the Air Force would establish contract ADAIR capabilities as analyzed in the March 2022 EA, Alternative 3 plus an additional four contractor aircraft for a total of 16 contractor aircraft providing an additional 600 contract ADAIR sorties operating from ECP for an annual total of total of 3,000 contract ADAIR sorties. The contract ADAIR aircraft, support facilities, hangar space, and operations and AMU facilities described under Proposed Action for ECP were previously analyzed in the March 2022 EA. There would be a negligible increase in the number of personnel, an estimated four additional pilots and 19

additional maintenance personnel and would not increase potential environmental impacts beyond those previously analyzed. The F-22 FTU mission would continue at Eglin AFB as described in Alternative 1.

### 2.5.5 *No Action Alternative*

Analysis of the No Action Alternative provides a benchmark, enabling decision-makers to compare the magnitude of the potential environmental effects of the Proposed Action. NEPA requires an EA to analyze the No Action Alternative. No action means that an action would not take place at this time, and the resulting environmental effects from taking no action would be compared with the effects of allowing the proposed activity to go forward. For the purposes of this Supplemental EA, No Action is contract ADAIR providing 2,400 sorties at Eglin AFB with the departure of the F-22 FTU mission or at ECP as previously analyzed in the March 2022 EA.

## 2.6 MITIGATION AND BEST MANAGEMENT PRACTICES

Agencies are required to identify and include all relevant and reasonable mitigation measures that could reduce potential significant impacts. The CEQ regulations (40 CFR § 1508.1[s]) define mitigation as avoiding the impact altogether by not taking a certain action or parts of an action; minimizing impacts by limiting the degree or magnitude of the action and its implementation; rectifying the impact by repairing, rehabilitating, or restoring the affected environment; reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and compensating for the impact by replacing or providing substitute resources or environments.

As summarized in **Section 2.7**, there are no significant impacts anticipated as a result of the Proposed Action or alternatives. Mitigation measures or project specific environmental commitments are not included in this EA; however, standard best management practices are assumed, when applicable, in the Environmental Consequences section of each resource in **Chapter 3**.

## 2.7 SUMMARY OF POTENTIAL ENVIRONMENTAL CONSEQUENCES

The potential environmental impacts associated with the Proposed Action are summarized in **Table 2-4**. The summary is based on information discussed in detail in **Chapter 3** of the EA and includes a concise definition of the issues addressed and the potential environmental impacts associated with each alternative action.

Table 2-4  
Comparison of Potential Environmental Consequences of the Proposed Action











Alternative	Resource									
	Airspace Management and Use	Noise	Safety	Air Quality	Biological Resources	Land Use	Socioeconomics – Income and Employment	Environmental Justice and Protection of Children	Cultural Resources	Hazardous Materials and Wastes and Toxic Substances
Alternative 1: Contract ADAIR Operating Out of Eglin Air Force Base with the F-22 Formal Training Unit	 There would be no modifications to the existing airspace. As airspace demand in the region would increase, all managing agencies would coordinate to reduce potential impacts. Negligible impacts at Eglin AFB or under the SUA.	 Under the Low, Medium, or High Noise Scenario there would be short-term minor impacts associated with increased noise. Impacts associated with subsonic and supersonic flight operations in the SUA would be negligible.	 No significant impacts on emergency response, ground, explosive, or flight safety are anticipated provided that a CDDAR program is established and all applicable AFOSH and OSHA requirements are followed at Eglin AFB or SUA.	 No impact on the region's ability to comply with the NAAQS for regulated pollutants. Would not hamper efforts to achieve compliance with ozone NAAQS.	 There would be no impacts on vegetation or invasive species as no ground-disturbing activities are proposed. The continuing F-22 FTU aircraft takeoffs and landings at Eglin AFB would have negligible short-term impacts on wildlife proximate to the airfield. There would be no impacts on listed species at Eglin AFB. Programmatic Endangered Species Act Section 7 consultation between the Air Force and the National Marine Fisheries Service for training activities in the Warning Areas that include F-22 FTU operations is ongoing.	 Potential short-term minor to moderate impacts on residential land use and population from changes to the noise environment would be anticipated.	 Potential short-term moderate adverse impact as increased noise greater than 65 dBA DNL at commercial and residential properties could lead to a short-term reduction in desirability to live and work at these properties until the F-22 FTU aircraft departure from Eglin AFB. Long-term, potentially minor, beneficial impacts would occur from increased expenditures in the ROI associated with the contract ADAIR operations and maintenance.	 No disproportionate impacts on minority or low-income populations. No elderly care facilities were identified as POIs and there would be no increased health risks to elderly populations. The increase in noise at schools and child development centers would expose youth populations to additional health risks until the departure of the F-22 FTU aircraft from Eglin AFB.	 No impacts to historic properties including significant architectural resources or archaeological sites. No known Traditional Cultural Properties or Sacred Sites are present at Eglin AFB or below the SUA.	 Minor impact on increased use of hazardous materials. No impact on hazardous waste management. No impacts on asbestos-containing materials, lead-based paint management, polychlorinated biphenyls, or radon.

Table 2-4  
Comparison of Potential Environmental Consequences of the Proposed Action































Alternative	Resource									
	Airspace Management and Use	Noise	Safety	Air Quality	Biological Resources	Land Use	Socioeconomics – Income and Employment	Environmental Justice and Protection of Children	Cultural Resources	Hazardous Materials and Wastes and Toxic Substances
Alternative 2: Additional Contract ADAIR Operating Out of Eglin AFB with the F-22 Formal Training Unit	 Potential impacts on the airspace and SUA are expected to be negligible and long term.	 Under the Low, Medium, or High Noise Scenario, there would be short-term minor to moderate impacts associated with increased noise.  Impacts associated with subsonic and supersonic flight operations in the SUA would be negligible.	 With an additional 600 contract ADAIR sorties, no significant impacts on emergency response, ground, explosive, or flight safety are anticipated provided that a CDDAR program is established and all applicable AFOSH and OSHA requirements are followed at Eglin AFB or SUA.	 Potential minor adverse impacts on air quality  No material impact on the region's ability to comply with the NAAQS for regulated pollutants.  Would not hamper efforts to achieve compliance with ozone NAAQS.	 There would be no impacts on vegetation or invasive species as no ground-disturbing activities are proposed.  Additional contract ADAIR takeoffs and landings with the temporary continuation of F-22 FTU aircraft takeoffs and landings at Eglin AFB would have negligible impacts on wildlife proximate to the airfield.  There would be no impacts on listed species at Eglin AFB.  Programmatic Endangered Species Act Section 7 consultation between the Air Force and the National Marine Fisheries Service for training activities in the Warning Areas that include contract ADAIR and F-22 FTU operations is ongoing.	 Potential short-term minor to moderate impacts on residential land use and population from changes to the noise environment would be anticipated.	 Potential short-term moderate adverse impact as increased noise greater than 65 dBA DNL at commercial and residential properties could lead to a short-term reduction in desirability to live and work at these properties until the F-22 FTU aircraft departure from Eglin AFB.  Long-term, potentially minor, beneficial impacts would occur from increased expenditures in the ROI associated with the contract ADAIR operations and maintenance.	 No disproportionate impacts on minority or low-income populations.  No elderly care facilities were identified as POIs and there would be no increased health risks to elderly populations.  The increase in noise at schools and child development centers would expose youth populations to additional health risks until the departure of the F-22 FTU aircraft from Eglin AFB.	 No impacts to historic properties including significant architectural resources or archaeological sites. No known Traditional Cultural Properties or Sacred Sites are present at Eglin AFB or below the SUA.	 Minor impact on increased use of hazardous materials.  No impact on hazardous waste management.  No impacts on asbestos-containing materials, lead-based paint management, polychlorinated biphenyls, or radon.






Table 2-4  
Comparison of Potential Environmental Consequences of the Proposed Action

Alternative	Resource									
	Airspace Management and Use	Noise	Safety	Air Quality	Biological Resources	Land Use	Socioeconomics – Income and Employment	Environmental Justice and Protection of Children	Cultural Resources	Hazardous Materials and Wastes and Toxic Substances
Alternative 3: Additional Contract ADAIR Operating Out of Eglin AFB with no F-22 Formal Training Unit	<p>●</p> <p>Potential impacts on the airspace and SUA are expected to be negligible and long term.</p>	<p>●</p> <p>Under the Low, Medium, or High Noise Scenario there would be long-term negligible impacts associated with increased noise.</p> <p>Impacts associated with subsonic and supersonic flight operations in the SUA would be negligible.</p>	<p>●</p> <p>With an additional 600 contract ADAIR sorties, no significant impacts on emergency response, ground, explosive, or flight safety are anticipated provided that a CDDAR program is established and all applicable AFOSH and OSHA requirements are followed at Eglin AFB or SUA.</p>	<p>●</p> <p>Potential net beneficial impacts on air quality</p> <p>No material impact on the region's ability to comply with the NAAQS for regulated pollutants. Potential net beneficial impact to the air quality in and around Eglin AFB as a result of the F-22 FTU going away.</p> <p>Would not hamper efforts to achieve compliance with ozone NAAQS.</p>	<p>●</p> <p>There would be no impacts on vegetation or invasive species as no ground-disturbing activities are proposed.</p> <p>Additional contract ADAIR takeoffs and landings at Eglin AFB would have negligible impacts on wildlife proximate to the airfield.</p> <p>There would be no impacts on listed species at Eglin AFB.</p> <p>Programmatic Endangered Species Act Section 7 consultation between the Air Force and the National Marine Fisheries Service for training activities in the Warning Areas that include contract ADAIR is ongoing.</p>	<p>●</p> <p>Potential long-term, minor changes to residential land use from changes to the noise environment would be anticipated.</p>	<p>●</p> <p>There would not be a substantial increase in areas zoned for residential and commercial land uses subject to greater than 65-dBA DNL and impacts would be negligible.</p> <p>Long-term, potentially minor, beneficial impacts would occur from increased expenditures in the ROI associated with the contract ADAIR operations and maintenance.</p>	<p>●</p> <p>No disproportionate impacts on minority or low-income populations.</p> <p>No elderly care facilities were identified as POIs and there would be no increased health risks to elderly populations.</p>	<p>●</p> <p>No impacts to historic properties including significant architectural resources or archaeological sites. No known Traditional Cultural Properties or Sacred Sites are present at Eglin AFB or below the SUA.</p>	<p>●</p> <p>Minor impact on increased use of hazardous materials.</p> <p>No impact on hazardous waste management.</p> <p>No impacts on asbestos-containing materials, lead-based paint management, polychlorinated biphenyls, or radon.</p>

Table 2-4  
Comparison of Potential Environmental Consequences of the Proposed Action

Alternative	Resource									
	Airspace Management and Use	Noise	Safety	Air Quality	Biological Resources	Land Use	Socioeconomics – Income and Employment	Environmental Justice and Protection of Children	Cultural Resources	Hazardous Materials and Wastes and Toxic Substances
<b>Alternative 4: Additional Contract ADAIR Operating Out of Northwest Florida Beaches International Airport (ECP) with the F-22 Formal Training Unit</b>	 Potential impacts on the airspace and SUA are expected to be negligible and long term.	 Under the High Noise Scenario there would be a long-term moderate impact at one POI associated with increased noise.  Under the Low and Medium Noise Scenarios there would be long-term minor to moderate impacts associated with increased noise.  Impacts associated with subsonic and supersonic flight operations in the SUA would be negligible.	 No significant impacts on emergency response, ground, explosive, or flight safety are anticipated provided that a CDDAR program is established and all applicable requirements are followed at ECP or in the SUA.	 Potential minor adverse impacts on air quality  No material impact on the region's ability to comply with the NAAQS for regulated pollutants.  Would not hamper efforts to achieve compliance with ozone NAAQS.	 There would be no impacts on vegetation or invasive species as no ground-disturbing activities are proposed.  There would be minor, adverse impacts on wildlife from additional contract ADAIR operations at ECP. The minor increase in noise and additional aircraft operations would have a minor impact on the breeding and foraging of wildlife, especially bird and mammal species.  There would be no impacts on listed species at Eglin AFB.  Programmatic Endangered Species Act Section 7 consultation between the Air Force and the National Marine Fisheries Service for training activities in the Warning Areas that include contract ADAIR operations is ongoing.	 Potential long-term, minor on the existing land use and population from changes to the noise environment would be anticipated.	 There would not be a substantial increase in areas zoned for residential and commercial land uses subject to greater than 65-dBA DNL and impacts would be negligible.  Long-term, potentially minor, beneficial impacts would occur from increased expenditures in the ROI associated with the contract ADAIR operations and maintenance.	 No disproportionate impacts on minority or low-income populations.  No elderly care facilities were identified as POIs and there would be no increased health risks to elderly populations.	 No historic properties at ECP including significant architectural resources or archaeological sites. No known Traditional Cultural Properties or Sacred Sites are present at ECP or below the SUA.	 Minor impact on increased use of hazardous materials.  No impact on hazardous waste management.  No impacts on asbestos-containing materials, lead-based paint management, polychlorinated biphenyls, or radon.
<b>No Action Alternative</b>	 No change.	 No change	 No change.	 No change.	 No change.	 No change.	 No change.	 No change.	 No change.	 No change.

Notes:

 No, minor, or negligible impact  Moderate impact but not significant  Major, significant impact

AFB = Air Force Base; AFOSH = Air Force Occupational Safety and Health; CDDAR = Crash Damage or Disabled Aircraft Recovery; dBA = A-weighted decibel(s); DNL = day-night average sound level; ECP = Northwest Florida Beaches International Airport; NAAQS = National Ambient Air Quality Standards; OSHA = Occupation Safety and Health Administration; POI = point of interest; SUA = Special Use Airspace.

## CHAPTER 3                   AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This Supplemental EA analyzes potential impacts on existing environmental conditions associated with additional, dedicated contract ADAIR sorties for Eglin AFB being supported either from Eglin AFB or an off-base location. The analysis considers the current, baseline conditions of the affected environment and compares those to conditions that might occur should the Air Force implement the Proposed Action Alternatives or the No Action Alternative.

In accordance with 40 CFR § 1501.12, the definition of each resource, setting, and existing conditions for all resources analyzed were described in the March 2022 EA and are incorporated by reference. Specifically, baseline conditions are described in Alternative 1 in the March 2022 EA for Eglin AFB and in Alternative 3 for ECP. The content of material incorporated by reference from the March 2022 EA is also briefly described to support agency and public review.

### 3.1                   ANALYZED RESOURCES AND EVALUATION CRITERIA

In this section, each resource is analyzed. The geographic scope or Region of Influence (ROI) for each resource is described in the March 2022 EA and summarized in **Table 3-1**. Evaluation criteria for most potential impacts were obtained from standard criteria; federal, state, or local agency guidelines and requirements; and/or legislative criteria. The resources the Proposed Action is not expected to affect and the rationale for not being carried forward for detailed analysis is included in the March 2022 EA.

Impacts and their significance are discussed for each resource. Impacts are defined in general terms and are qualified as adverse or beneficial, and as short- or long-term. For the purposes of this EA, short-term impacts are generally considered those impacts that would have temporary effects. Long-term impacts are generally considered those impacts that would result in persistent effects.

Impacts are defined as

- negligible, the impact is localized and not measurable or at the lowest level of detection;
- minor, the impact is localized and slight but detectable;
- moderate, the impact is readily apparent and appreciable; or
- major, the impact is adverse or highly noticeable and considered to be significant.

Major impacts are considered significant and receive the greatest attention in the decision-making process. The significance of an impact is assessed based on the potentially affected environment and degree of the effects of the action (40 CFR. § 1501.3[b]). Major impacts require application of a mitigation measure to achieve a less than significant impact. Moderate impacts may not meet the criteria to be classified as significant, but the degree of change is noticeable (audible) and has the potential to become significant if not effectively mitigated. Minor impacts have little to no effect on the environment and are not easily detected; impacts defined as negligible are the lowest level of detection and generally are not measurable. Beneficial impacts provide desirable situations or outcomes.

Reasonably foreseeable future actions that could result in an increased effect to environmental resources in conjunction with the Proposed Action are discussed in the March 2022 EA. An additional foreseeable proposed project is summarized in **Appendix B** and considered in this Supplemental EA.

**Table 3-1**  
**Region of Influence for the Proposed Action by Resource**

Resource	ROI		
	Eglin AFB	ECP	SUA
<b>Airspace Management and Use</b>	Eglin AFB and its environs	ECP and its environs	All SUA (see <b>Figure 1-1</b> )
<b>Noise</b>	Eglin AFB and its environs	ECP and its environs <sup>1</sup>	All SUA (see <b>Figure 1-1</b> )
<b>Safety</b>	Airfield and areas immediately adjacent to the airfield property as well as the airfield and airspace	Airfield and areas immediately adjacent to the airfield property as well as the airfield and airspace	All SUA (see <b>Figure 1-1</b> )
<b>Air Quality</b>	Eglin AFB and its environs under the Mobile (Alabama)-Pensacola-Panama City (Florida)-Southern Mississippi Interstate AQCR	ECP and its environs under the Mobile (Alabama)-Pensacola-Panama City (Florida)-Southern Mississippi Interstate AQCR	Warning Areas W-151 and W-470 (see <b>Figure 1-1</b> )
<b>Biological Resources</b>	Eglin AFB and its environs including airfields, the land and airspace within the airfield noise contours, and safety zones	ECP and its environs including airfields, the land and airspace within the airfield noise contours, and safety zones	All SUA (see <b>Figure 1-1</b> )
<b>Land Use</b>	Land surrounding Eglin AFB, and the land within the airfield noise contours	Land surrounding ECP, and the land within the airfield noise contours	Not analyzed
<b>Socioeconomics – Income and Employment</b>	Okaloosa, Santa Rosa, and Walton Counties, Florida	Bay County, Florida	Not analyzed
<b>Environmental Justice</b>	Okaloosa, Santa Rosa, and Walton Counties, Florida	Bay County, Florida	Not analyzed
<b>Cultural Resources</b>	Areas of Eglin AFB proposed for use, including selected office space, aircraft maintenance hangar space, storage area(s), vehicle parking, and ramp space	Land within the boundary of ECP	All SUA (see <b>Figure 1-1</b> )

**Table 3-1**  
**Region of Influence for the Proposed Action by Resource**

Resource	ROI		
	Eglin AFB	ECP	SUA
<b>Hazardous Material, Waste, Environmental Restoration Program Sites, and Toxic Substances</b>	Facilities including selected office space, aircraft maintenance hangar space, storage area(s), vehicle parking, and ramp space	General anticipated use of ECP such as office space, aircraft maintenance hangar space, storage area(s), vehicle parking, and ramp space	Not analyzed

Notes:

<sup>1</sup> Noise analysis at ECP was conducted to update the airfield noise contours and the SUA noise levels in order to reflect the most recent and accurate aircraft operations and flying conditions.

AFB = Air Force Base; AQCR = Air Quality Control Region; ECP = Northwest Florida Beaches International Airport; ROI = Region of Influence; SUA = special use airspace

## 3.2 AIRSPACE MANAGEMENT AND USAGE

### 3.2.1 *Existing Conditions – Eglin Air Force Base*

The definition of the resource, setting, and existing conditions for airspace management and use at Eglin AFB were described in the March 2022 EA and are incorporated by reference. The Eglin AFB airfield is operated by the 33 FW and 96 TW supporting military operations conducted by units stationed at the base. Military training has occurred at Eglin AFB since 1935. With a large complement of F-35s, the 33 FW and 96 TW have the ability to train many pilots. The majority of operations at Eglin AFB are performed by fighter aircraft.

Air Traffic Control (ATC) for Eglin AFB is provided by the Air Force. Controlled Class D airspace, which is airspace that extends from the surface up to and including 2,600 feet (ft) mean sea level (MSL) within a 5.5-miles (mi) radius of Eglin AFB, has been established around the airfield to support managing air traffic controlled by Eglin AFB Tower, per Eglin AFB Instruction 13-204, Air Operations.

A variety of factors can influence the annual level of operational activity at an airfield, including economics, national emergencies, and maintenance requirements. Operations consist of arrivals and departures (itinerant) by primarily military aircraft. Military aircraft use makes up over 70 percent of the airfield use, including contract ADAIR, with the remaining amount used by transient and civilian flights (**Table 3-2**).

**Table 3-2  
Annual Operations at Eglin Air Force Base**

Use	Annual Operations <sup>1</sup>	Percentage of Use
<b>Military</b>		
33 FW, 96 TW, other military aircraft	39,708	62.7
Transient	3,434	5.4
Contract ADAIR	5,040	8.0
<b>Civilian</b>		
General Aviation	15,166	23.9
<b>Total</b>	<b>63,348</b>	<b>100</b>

Notes:

<sup>1</sup> Annual Operations as described in the March 2022 EA, Alternative 1 are utilized for Eglin AFB in this EA.  
33 FW = 33rd Fighter Wing; 96 TW = 96th Test Wing

### 3.2.2 *Existing Conditions – Northwest Florida Beaches International Airport*

The definition of the resource, setting, and existing conditions for airspace management and use at ECP were described in the March 2022 EA and are incorporated by reference. ECP is a public airport located in Bay County, approximately 15 mi northwest of downtown Panama City, Florida. ECP operates in Class D airspace (SVC 0600-2200) and Class G airspace at other times. The airport has one runway that measures 10,000 ft which serves a variety of military and air carrier aircraft as well as general aviation aircraft. The ECP ATC tower is located east of runway 34 and south of the terminal building. The tower controls ground aircraft in movement areas and within 5 NM of the surrounding airspace.

Annual operations consist of arrivals and departures of itinerant and local operations (including patterns). General aviation itinerant and local operations, mostly by single engine and twin-engine turboprop or piston aircraft, makes up 38.3 percent and 15.7 percent of the airfield use, respectively, with the remaining operations conducted by air carrier (17.2 percent), military (21.3 percent including contract ADAIR), and air taxi operations (7.5 percent) as shown in **Table 3-3**.

**Table 3-3**  
**Annual Operations at Northwest Florida Beaches International Airport**

Use	Annual Operations <sup>1</sup>	Percentage of Use
Military	9,670	14.0
Air Carrier	11,880	17.2
Air Taxi	5,186	7.5
General Aviation (Local)	10,876	15.7
General Aviation (Itinerant)	26,441	38.3
Contract ADAIR	5,040	7.3
<b>Total</b>	<b>69,093</b>	<b>100</b>

Notes:

<sup>1</sup> Annual Operations as described in March 2022 EA, Alternative 3 are utilized for ECP in this EA.

### 3.2.3 Existing Conditions – Special Use Airspace

The definition of the resource, setting, and existing conditions for airspace management and use in the SUA were described in the March 2022 EA and are incorporated by reference. Fighter aircraft assigned to Eglin AFB primarily train in Warning Areas W-151 and W-470 and the GRASI ATCAA (see **Figure 1-1**).

### 3.2.4 Environmental Consequences Evaluation Criteria

Adverse impacts on the airspace surrounding the airfield or the SUA might include modifications to the airspace or significantly increasing flight operations within the SUA because of the Proposed Action and alternatives. For the purposes of this EA, an impact is considered significant if it modifies SUA location, dimensions, or aircraft operational capacity.

### 3.2.5 Environmental Consequences – Alternative 1: Contract ADAIR with F-22 FTU (Eglin)

#### 3.2.5.1 Eglin Air Force Base

Under Alternative 1 there would be no change to Eglin AFB airspace structure or to the ATC procedures for airspace management and use. Existing approach and departure routes would continue unchanged. The temporary addition of an estimated 9,760 annual sorties associated with the F-22 FTU (39-percent increase) in the airfield airspace is not expected to impact the operational capacity or necessitate changes to airspace locations or dimensions of any of the airspace around the airfield proposed for use. Potential impacts on the airspace are expected to be negligible and short-term.

#### 3.2.5.2 Special Use Airspace

The F-22 FTU would temporarily add an estimated 4,392 annual training sorties (75-percent increase) in Warning Areas W-151 and W-470 and the GRASI ATCAA. No airspace modifications are included as part of the Proposed Action. The SUA proposed for use have the capacity, are in locations, and have the dimensions necessary to support the additional sorties proposed under Alternative 1. Negligible impacts on airspace are expected from the implementation of Alternative 1.

### **3.2.6 *Environmental Consequences – Alternative 2: Additional (Plus Up) Contract ADAIR with F-22 FTU (Eglin)***

#### **3.2.6.1 Eglin Air Force Base**

Under Alternative 2 there would be no change to Eglin AFB airspace structure or to the ATC procedures for airspace management and use. Existing approach and departure routes would continue unchanged. The addition of an estimated 10,360 annual sorties associated with the temporary continuation of the F-22 FTU and additional contract ADAIR (41-percent increase) in the airfield airspace is not expected to impact the operational capacity or necessitate changes to airspace locations or dimensions of any of the airspace around the airfield proposed for use. Potential impacts on the airspace are expected to be negligible and long-term.

#### **3.2.6.2 Special Use Airspace**

Under Alternative 2, the F-22 FTU would temporarily add an estimated 4,392 annual training sorties and contract ADAIR would add 600 training sorties (total 85-percent increase) in Warning Areas W-151 and W-470 and the GRASI ATCAA. No airspace modifications are included as part of the Proposed Action. The SUA proposed for use have the capacity, are in locations, and have the dimensions necessary to support the additional sorties proposed under Alternative 2. Negligible impacts on airspace are expected from the implementation of Alternative 2.

### **3.2.7 *Environmental Consequences – Alternative 3***

#### **3.2.7.1 Eglin Air Force Base**

Under Alternative 3 there would be no change to Eglin AFB airspace structure or to the ATC procedures for airspace management and use. Existing approach and departure routes would continue unchanged. The addition of an estimated 600 annual sorties associated with contract ADAIR (2.4-percent increase) in the airfield airspace is not expected to impact the operational capacity or necessitate changes to airspace locations or dimensions of any of the airspace around the airfield proposed for use. Potential impacts on the airspace are expected to be negligible and long-term.

#### **3.2.7.2 Special Use Airspace**

Under Alternative 3, contract ADAIR would add 600 training sorties (10-percent increase) in Warning Areas W-151 and W-470 and the GRASI ATCAA. No airspace modifications are included as part of the Proposed Action. The SUA proposed for use have the capacity, are in locations, and have the dimensions necessary to support the additional sorties proposed under Alternative 3. Negligible impacts on airspace are expected from the implementation of Alternative 3.

### **3.2.8 *Environmental Consequences – Alternative 4***

#### **3.2.8.1 Northwest Florida Beaches International Airport**

Under Alternative 4 there would be no change to ECP airspace structure or to the ATC procedures for airspace management and use. Existing approach and departure routes would continue unchanged. The addition of an estimated 600 annual contract ADAIR sorties (2-percent increase) in the airport airspace is not expected to impact the operational capacity or necessitate changes to airspace locations or dimensions of any of the airspace around the airport proposed for use. Potential impacts on the airspace are expected to be negligible and long-term from the implementation of Alternative 4.



### 3.2.8.2 Special Use Airspace

Alternative 4 would use the same SUA and number of annual training sorties, as would Alternative 3, such that potential impacts would be the same as with Alternative 3. Negligible impacts on airspace are expected from the implementation of Alternative 4.

### 3.2.9 *No Action Alternative*

Under the No Action Alternative, there would be no change to airspace management and use. For the purposes of this Supplemental EA, No Action is contract ADAIR providing 2,400 sorties at Eglin AFB with the departure of the F-22 FTU mission or at ECP as previously analyzed in the March 2022 EA.

### 3.2.10 *Reasonably Foreseeable Future Actions and Other Environmental Considerations*

There would be no modifications to the existing airspace under the Proposed Action; however, with the additional demand for the same airspace from the Proposed Action, the potential for impacts on airspace management and use can be expected. As airspace demand in the region increases, the Air Force, in conjunction with other managing agencies, will continue coordination to reduce potential impacts. Potential effects on airspace management and use from contract ADAIR operations, from Alternatives 1, 2, 3 or 4, when added to reasonably foreseeable future actions are expected to be negligible.

## 3.3 NOISE

### 3.3.1 *Existing Conditions – Eglin Air Force Base*

Existing annual operations at Eglin AFB airfield total 63,348 including those by F-35A (27,500), other based military (12,208), civilian (15,166), transient (3,434) and contract ADAIR (5,040 operations or 2,400 sorties). A more detailed existing annual aircraft operations table can be found in **Appendix C.2**. Because it is not known at this time what type of aircraft would be used by contract ADAIR, three existing aircraft Noise Scenarios were evaluated (High, Medium, and Low) to represent the range of aircraft types that could be selected. The aircraft designated for use by contract ADAIR and the surrogate aircraft modeled for the High, Medium, and Low Noise Existing Scenarios are listed in **Table 3-4**.

To model the noise contribution from contract ADAIR all associated flight and engine run-up operations were set to the contract ADAIR aircraft listed in **Table 3-4** for the appropriate scenario. For example, when looking at the High Noise Scenario, all contract ADAIR operations were modeled as Eurofighter Typhoon operations; however, the NOISEMAP database does not contain noise data for the Eurofighter Typhoon, so an appropriate noise modeling surrogate was selected, the F-18E/F in this case. The noise modeling surrogates for various aircraft listed in **Table 3-4** have been approved for use by the Comprehensive Planning Division of the Air Force Civil Engineer Center, which manages the Air Installations Compatible Land Use Zones (AICUZ) program. Flight profiles for contract ADAIR (i.e., schedules of altitude, power setting, and airspeed along each flight track) were reviewed and approved by the operators at Eglin AFB and Air Combat Command (ACC). The representative flight profiles for the various contract ADAIR scenarios are provided in **Appendix C.2**. All contract ADAIR departure profiles were modeled using afterburner or the maximum possible power on all takeoffs. The modeling represents the loudest noise levels for this class of surrogate aircraft and engine types that would be experienced for existing conditions.

**Table 3-4**  
**Contract ADAIR Noise Scenarios**

Scenario	Contract ADAIR Aircraft	Surrogate Aircraft
High Noise Scenario	Eurofighter Typhoon	F-18E/F
Medium Noise Scenario	Dassault Mirage	F-16C
Low Noise Scenario	JAS 39 Gripen	F-16A

Additional details regarding the existing operations and noise environment at Eglin AFB are reported in the March 2022 EA. However, in this EA, existing conditions noise analyses for Eglin AFB are shown compared with the noise analyses for the alternatives considered for Eglin AFB in this study, including Alternative 1 – the existing 2,400 contract ADAIR sorties plus the F-22 FTU, Alternative 2 – 3,000 contract ADAIR sorties plus the F-22 FTU, and Alternative 3 – 3,000 contract ADAIR sorties without the F-22 FTU. Note that each alternative includes assessments for High, Medium, and Low Noise Scenario contract ADAIR aircraft.

### 3.3.2 Existing Conditions – Northwest Florida Beaches International Airport

Aircraft operations at ECP consist of a variety of military aircraft and civilian twin engine and single engine aircraft. Existing annual aircraft operations at ECP total 69,093 including military (9,670), air carrier (11,880), air taxi (5,186), general aviation local (10,876), general aviation itinerant (26,441), and contract ADAIR (5,040 operations or 2,400 sorties). A more detailed existing annual aircraft operations table can be found in **Appendix C.2**.

Similar to existing conditions for Eglin AFB, it is not known at this time what type of aircraft would be used by contract ADAIR at ECP; therefore, the three aircraft Noise Scenarios (High, Medium, and Low) listed in **Table 3-4** were evaluated to represent the range of aircraft types that could be selected.

Additional details regarding the existing operations and noise environment at ECP are reported in the March 2022 EA. However, in this EA, the same existing conditions noise analysis for ECP are shown compared with the noise analysis for the single Proposed Action alternative considered for ECP in this study, referred to as Alternative 4 – the existing 2,400 contract ADAIR sorties plus 600 additional contract ADAIR sorties. Note that this alternative includes assessments for High, Medium, and Low noise contract ADAIR aircraft.

### 3.3.3 Environmental Consequences Evaluation Criteria

Noise analysis typically evaluates potential changes to existing noise environments that would result from implementation of the Proposed Action and alternatives. In accordance with AFH 32-7084, the 65- A-weighted decibel (dBA) day-night average sound level (DNL) is the noise level below which generally all land uses are compatible with noise from aircraft operations. Areas below 65-dBA DNL can also experience levels of appreciable noise depending upon training intensity or weather conditions. In addition, DNL noise contours may vary from year to year due to fluctuations in operational tempo because of unit deployments, funding levels, and other factors. A DNL increase of greater than 3 dBA would be clearly noticeable and may increase human annoyance.

Potential changes in the noise environment can be beneficial (i.e., if they reduce the number of sensitive receptors exposed to unacceptable noise levels), negligible (i.e., if the total area exposed to unacceptable noise levels is essentially unchanged), or adverse (i.e., if they result in increased noise exposure to unacceptable noise levels). Projected noise impacts were evaluated for Alternatives 1, 2, 3, and 4. Summaries of noise impacts from each alternative are listed in **Table 3-5**, followed by detailed descriptions regarding impacts specific to each alternative.

A discussion of noise impacts on population and land use can be found in **Section 3.7**.

**Table 3-5  
Summary of Potential Noise Impacts**

Alternative	Change in Noise
Alternative 1 – Contract ADAIR Operating Out of Eglin AFB with the F-22 FTU	<b>High Noise Scenario:</b> Eglin AFB – Short-term, minor DNL increases at sixteen POIs of 2 to 3 dBA (moderate increase of 4 dBA at one POI). Potential for short-term minor impacts on ten POIs as well as an increase in noise in areas surrounding the airfield. SUA – Short-term, noticeable Ldnmr increases and potential for minor impacts on W-151 (2 dB higher than existing conditions) and short-term negligible impacts on the GRASI ATCAA and W-470.
	<b>Medium Noise Scenario:</b> Eglin AFB – Short-term, minor DNL increases at fifteen POIs of 2 to 3 dBA (moderate increase of 4 dBA at two POIs). Potential for short-term minor impacts on nine POIs as well as an increase in noise in areas surrounding the airfield. SUA – Short-term, noticeable Ldnmr increases and potential for minor impacts on W-151 (2 dB higher than existing conditions) and short-term negligible impacts on the GRASI ATCAA and W-470.
	<b>Low Noise Scenario:</b> Eglin AFB – Short-term, minor DNL increases at fourteen POIs of 2 to 3 dBA (moderate increase of 4 dBA at three POIs). Potential for short-term minor impacts on ten POIs as well as an increase in noise in areas surrounding the airfield. SUA – Short-term, noticeable Ldnmr increases and potential for minor impacts on W-151 (2 dB higher than existing conditions) and short-term negligible impacts to the GRASI ATCAA and W-470.
Alternative 2 – Additional Contract ADAIR Operating Out of Eglin AFB with the F-22 FTU	<b>High Noise Scenario:</b> Eglin AFB – Short-term, minor DNL increases at fifteen POIs of 2 to 3 dBA (moderate increase of 4 dBA at two POIs). Potential for short-term minor impacts on eleven POIs as well as an increase in noise in areas surrounding the airfield. SUA – Same as Alternative 1; short-term, noticeable Ldnmr increases and potential for minor impacts on W-151 (2 dB higher than existing conditions) and short-term negligible impacts on the GRASI ATCAA and W-470.
	<b>Medium Noise Scenario:</b> Eglin AFB – Short-term, minor DNL increases at fifteen POIs of 2 to 3 dBA (moderate increase of 4 dBA at two POIs). Potential for short-term minor impacts on nine POIs as well as an increase in noise in areas surrounding the airfield. SUA – Same as Alternative 1; short-term, noticeable Ldnmr increases and potential for minor impacts on W-151 (2 dB higher than existing conditions) and short-term negligible impacts on the GRASI ATCAA and W-470.
	<b>Low Noise Scenario:</b> Eglin AFB – Short-term, minor DNL increases at fourteen POIs of 2 to 3 dBA (moderate increase of 4 dBA at three POIs). Potential for short-term minor impacts on ten POIs as well as an increase in noise in areas surrounding the airfield. SUA – Same as Alternative 1; short-term, noticeable Ldnmr increases and potential for minor impacts on W-151 (2 dB higher than existing conditions) and short-term negligible impacts on the GRASI ATCAA and W-470.
	<b>High Noise Scenario:</b>

**Table 3-5  
Summary of Potential Noise Impacts**

<b>Alternative</b>	<b>Change in Noise</b>
Alternative 3 – Additional Contract ADAIR Operating Out of Eglin AFB with no F-22 FTU	Eglin AFB – Long-term, negligible DNL increases at eleven POIs of 1 dBA. Potential for long-term negligible impacts on eleven POIs as well as an increase in noise in areas surrounding the airfield. SUA – Long-term, negligible impact due to the additional 600 contract ADAIR sorties flying in the SUA.
	<b>Medium Noise Scenario:</b> Eglin AFB – Long-term, negligible DNL increases at two POIs of 1 dBA. Potential for long-term negligible impacts on two POIs as well as an increase in noise in areas surrounding the airfield. SUA – Long-term, negligible impact due to the additional 600 contract ADAIR sorties flying in the SUA.
	<b>Low Noise Scenario:</b> Eglin AFB – Long-term, negligible DNL increases at three POIs of 1 dBA. Potential for long-term negligible, impacts on three POIs as well as an increase in noise in areas surrounding the airfield. SUA – Long-term, negligible impact due to the additional 600 ADAIR sorties flying in the SUA.
Alternative 4 – Additional Contract ADAIR Operating Out of ECP with the F-22 FTU	<b>High Noise Scenario:</b> ECP – Long-term, minor to moderate DNL increase at one POI of 3 dBA. Potential for long-term minor impacts on one POI as well as an increase in noise in areas surrounding the airport. SUA – Long-term, negligible impacts due to the additional 600 ADAIR sorties flying in the SUA.
	<b>Medium Noise Scenario:</b> ECP – Long-term, minor DNL increase at one POI of 2 dBA. Potential for long-term minor impacts on one POI as well as an increase in noise in areas surrounding the airport. SUA – Long-term, negligible impacts due to the additional 600 ADAIR sorties flying in the SUA.
	<b>Low Noise Scenario:</b> ECP – Long-term, minor DNL increase at one POI of 2 dBA. Potential for long-term minor impacts on one POI as well as an increase in noise in areas surrounding the airport. SUA – Long-term, negligible impacts due to the additional 600 ADAIR sorties flying in the SUA.
No Action Alternative	None

ADAIR = adversary air; AFB = Air Force Base; ATCAA = Air Traffic Control Assigned Airspace; dBA = A-weighted decibel(s); DNL = day-night average sound level; ECP = Northwest Florida Beaches International Airport; FTU = Formal Training Unit; GRASI = Gulf Regional Airspace Strategic Initiative; Ldnmr: onset-rate adjusted monthly day-night average sound level; POI = point of interest; SUA = Special Use Airspace

### 3.3.4 Environmental Consequences – Alternative 1: Contract ADAIR with F-22 FTU (Eglin)

#### 3.3.4.1 Eglin Air Force Base

##### High Noise Scenario

Implementation of the Proposed Action High Noise Scenario would result in a 49 percent temporary increase in the number of operations at Eglin AFB associated with the F-22 FTU (19,764 F-22 operations and 11,273 T-38 operations). Contract ADAIR environmental night sorties are described in the March 2022 EA. Proposed annual departure, arrival, and closed pattern aircraft operations at Eglin AFB with the addition of the F-22 FTU are listed in **Table 3-6**. The F-22 FTU and contract ADAIR would also perform static run-up operations, such as pre- and postflight run-ups.

**Table 3-6**  
**Proposed High Noise Scenario Annual Aircraft Operations Summary at Eglin Air Force Base**

Aircraft	Departures		Arrivals		Closed Patterns		Total Operations		
	Day	Night	Day	Night	Day	Night	Day	Night	Total
F-35A	10,780	220	10,452	548	5,398	102	26,630	870	27,500
F-22	4,304	88	4,172	220	10,760	220	19,236	528	19,764
T-38	5,368	0	5,368	0	537	0	11,273	0	11,273
Other Based Military	3,490	48	3,453	85	5,132	0	12,075	133	12,208
Civilian	6,821	696	7,178	339	132	0	14,131	1,035	15,166
Transient	639	0	639	0	2,156	0	3,434	0	3,434
Contract ADAIR	2,349	51	2,281	119	240	0	4,870	170	5,040
<b>Grand Total</b>	<b>33,751</b>	<b>1,103</b>	<b>33,543</b>	<b>1,311</b>	<b>24,355</b>	<b>322</b>	<b>91,649</b>	<b>2,736</b>	<b>94,385</b>

The resultant 65- to 85-dBA DNL contours in 5-dBA increments for the daily flight events at Eglin AFB under the proposed High Noise Scenario are depicted on **Figure 3-1** along with the representative noise sensitive locations point of interest (POIs) modeled and assessed following.

The noise levels generated by High Noise Scenario F-22 FTU aircraft would increase the overall noise environment in the vicinity of Eglin AFB. A comparison of the DNL noise contours of the High Noise Scenario and the existing conditions is depicted on **Figure 3-2**, and the change in area within noise contours as a result of the High Noise Scenario is listed in **Table 3-7**.

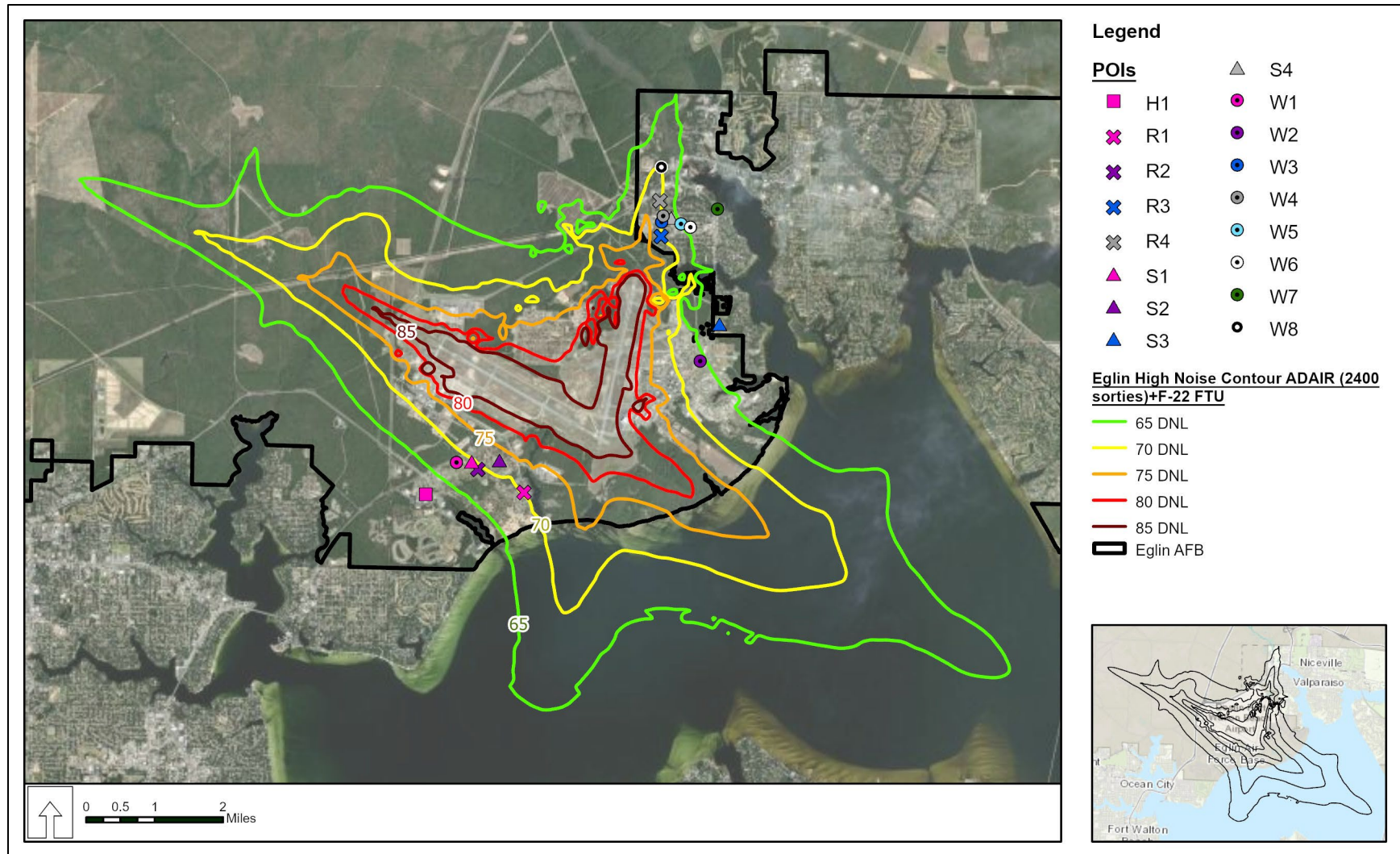


Figure 3-1. High Noise Scenario Day-Night Average Sound Level Contours at Eglin Air Force Base.



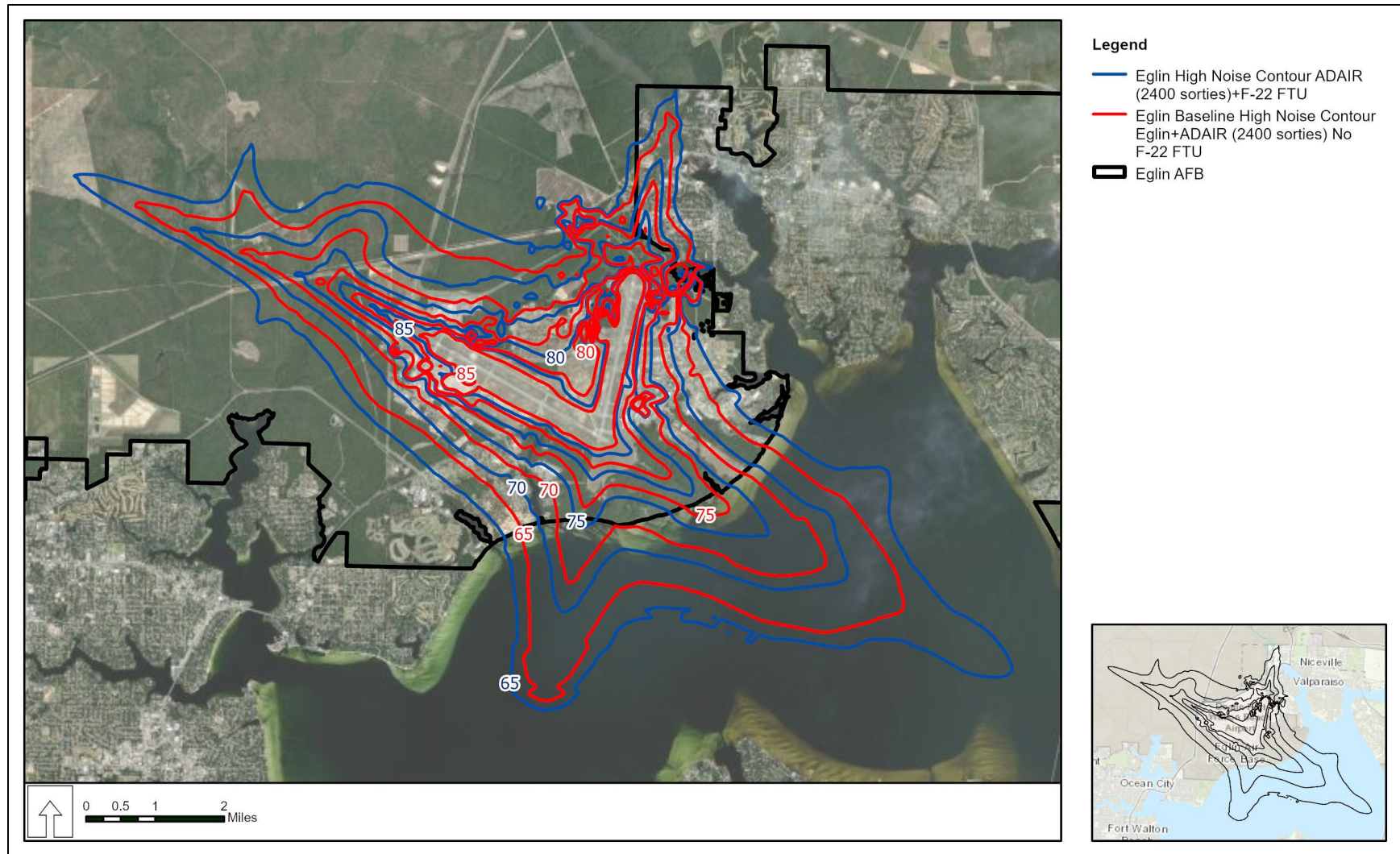


Figure 3-2. Comparison of High Noise Scenario and Existing Day-Night Average Sound Level Contours at Eglin Air Force Base.

**Table 3-7**  
**Proposed High Noise Scenario Day-Night Average Sound Level Area Affected on and Surrounding Eglin Air Force Base<sup>1</sup>**

Noise Level (dBA DNL)	Area within Noise Contour (acres)		
	Calculated Baseline <sup>2</sup>	High Noise Scenario	Increase
>65	14,759	19,499	4,740
>70	7,613	10,183	2,570
>75	3,877	5,204	1,327
>80	2,000	2,788	788
>85	1,005	1,373	368

Notes:

<sup>1</sup> Area (on- and off-airport property) was based off the NOISEMAP-modeled noise contours and used to calculate the amount of land within each noise contour. The amounts shown are cumulative (i.e., the acreage within the >85-dBA DNL contour is also within all the lower noise level contours).

<sup>2</sup> Baseline calculated from existing conditions described in March 2022 EA plus the increase in acres modeled under the High Noise Scenario for Alternative 1.

dBA = A-weighted decibel; DNL = day-night average sound level

As a result of the implementation of the High Noise Scenario, existing noise levels at representative POIs described in the March 2022 EA would increase (**Table 3-8**). At the representative noise sensitive locations modeled, the DNL would increase from 2 to 4 dBA under the High Noise Scenario. The increased DNL at POIs and the surrounding areas would be short-term, minor (at H1, R2, R4, S2, S3, S4, W1 through W4, and W8) or moderate (S1 only), and temporary under the High Noise Scenario for Eglin AFB. Prior to the relocation of the F-22 FTU aircraft, the change in DNL under the High Noise Scenario would result in a minor to moderate noise annoyance increase to sensitive receptors (for noise annoyance definition see the March 2022 EA, **Appendix B-1, Section B.1.4.1**). After the completion of the F-22 FTU aircraft relocation to JBLE-Langley, the DNL would decrease, and the No Action Alternative (**Section 3.3.8**) would be representative of the Eglin AFB Alternative 1 High Noise Scenario noise environment in the long term.

**Table 3-8**  
**Proposed High Noise Scenario Day-Night Average Sound Level at Representative Points of Interest on and near Eglin Air Force Base**

POIs		DNL (dBA)		
ID	Description	Existing Ambient	High Noise Scenario	Increase in DNL
H1	Eglin Hospital	59	62	3
R1	Eglin Housing (Capehart)	68	70	2
R2	Eglin Housing (Ben's Lake)	66	69	3
R3	#1 Housing (Valparaiso)	68	70	2
R4	#2 Housing (Valparaiso)	68	71	3
S1	Eglin Elementary School	66	70	4
S2	Eglin Child Development Center	70	73	3
S3	Lewis Middle School (Valparaiso)	59	61	3
S4	Valparaiso Elementary School	64	67	3
W1	Eglin Chapel 2 – Building 2574	65	68	3
W2	Eglin Chapel 1 - Building 868	63	66	3
W3	First Assembly of God (Valparaiso)	66	69	3
W4	New Hope Baptist (Valparaiso)	66	69	3



**Table 3-8**  
**Proposed High Noise Scenario Day-Night Average Sound Level at Representative Points of Interest on and near Eglin Air Force Base**

POIs		DNL (dBA)		
ID	Description	Existing Ambient	High Noise Scenario	Increase in DNL
W5	Sovereign Grace Church (Valparaiso)	63	65	2
W6	First Baptist Church (Valparaiso)	62	64	2
W7	Unitarian Church (Valparaiso)	55	57	2
W8	Niceville Community Church	67	70	3

Note: POI levels based on the NOISEMAP-modeled noise exposures.

H=Hospital; R=Residential; S=School; W=Worship; dBA = A-weighted decibel; DNL = day-night average sound level; POI = point of interest

Note that the existing ambient levels reported in **Table 3-8**, and subsequently in **Tables 3-10 and 3-12**, are the background noise levels associated with the High, Medium, and Low noise scenarios, respectively, previously reported in the March 2022 EA. These existing ambient levels for the High, Medium, and Low noise scenarios are different, reflecting the different aircraft and flight profiles associated with each scenario. The same rationale applies to all High, Medium, and Low noise scenarios analyzed under Alternatives 1 through 4.

Similarly, the calculated baseline levels reported in **Table 3-7**, and subsequently in **Tables 3-9 and 3-11**, are the acreages within the designated noise contours associated with the High, Medium, and Low noise scenarios respectively, previously reported in the March 2022 EA. These existing baseline acreages for the High, Medium, and Low noise scenarios are different, reflecting the different aircraft and flight profiles associated with each scenario. The same rationale applies to all High, Medium, and Low noise scenarios analyzed under Alternatives 1 through 4.

### Medium Noise Scenario

The operation numbers, day/night distribution, and runway utilization for the Medium Noise Scenario would be identical to those of the High Noise Scenario.

The resultant 65- to 85-dBA DNL contours in 5-dBA increments for the daily flight events at Eglin AFB under the proposed Medium Noise Scenario are depicted on **Figure 3-3** along with the representative POIs.

The noise levels generated by Medium Noise Scenario F-22 FTU aircraft would temporarily increase the overall noise environment in the vicinity of Eglin AFB. A comparison of the DNL noise contours of the Medium Noise Scenario and the existing conditions is depicted on **Figure 3-4**, and the change in area within noise contours as a result of the Medium Noise Scenario is listed in **Table 3-9**.

As a result of the implementation of the Medium Noise Scenario, noise levels at representative POIs described in the March 2022 EA would increase (**Table 3-10**). At the representative noise sensitive locations modeled, the DNL would increase from 2 to 4 dBA under the Medium Noise Scenario. The increased DNL at POIs and the surrounding areas would be short-term, minor (H1, R1, R4, S1, S2, W1, W3, W4, and W7) or moderate (R2 and W8 only), and temporary under the Medium Noise Scenario for Eglin AFB. Prior to the relocation of the F-22 FTU aircraft in 2023, the change in DNL under the Medium Noise Scenario would result in a minor to moderate noise annoyance increase to sensitive receptors (for noise annoyance definition see the March 2022 EA, **Appendix B-1, Section B.1.4.1**). After the completion of the F-22 FTU aircraft relocation to JBLE-Langley in 2023, the DNL would decrease, and the No Action Alternative (**Section 3.3.8**) would be representative of the Eglin AFB Alternative 1 Medium Noise Scenario noise environment in the long term.

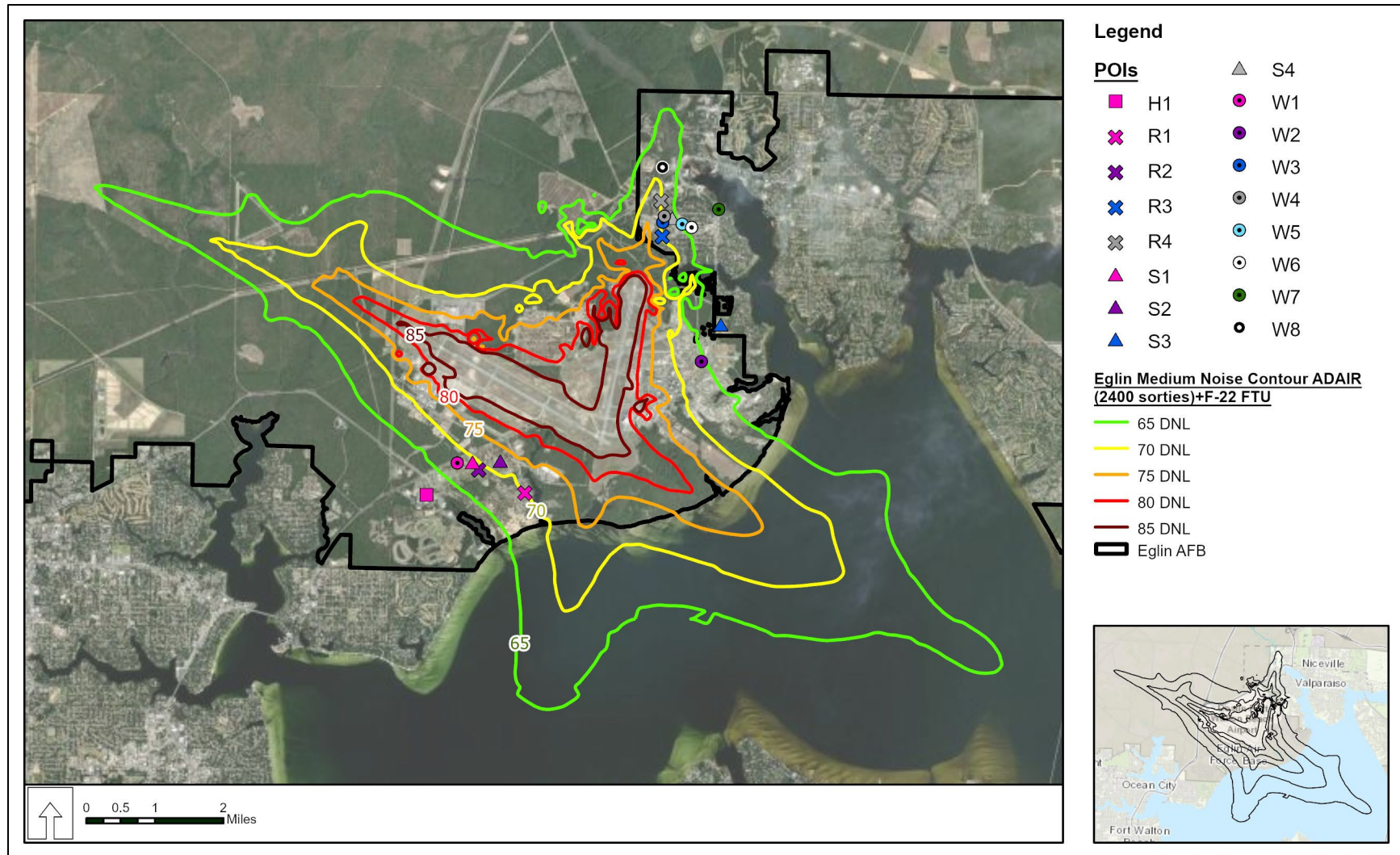
### Low Noise Scenario

The operation numbers, day/night distribution, and runway utilization for the Low Noise Scenario would be identical to those of the High Noise Scenario.

The resultant 65- to 85-dBA DNL contours in 5-dBA increments for the daily flight events at Eglin AFB under the proposed Low Noise Scenario are depicted on **Figure 3-5** along with the representative POIs.

The noise levels generated by Low Noise Scenario F-22 FTU aircraft would temporarily increase the overall noise environment in the vicinity of Eglin AFB. A comparison of the DNL noise contours of the Low Noise Scenario and the existing conditions is depicted on **Figure 3-6**, and the change in area within noise contours as a result of the Low Noise Scenario is listed in **Table 3-11**.

As a result of the implementation of the Low Noise Scenario, noise levels at representative POIs described in the March 2022 EA would increase (**Table 3-12**). At the representative noise sensitive locations modeled, the DNL would increase by an amount ranging from 2 to 4 dBA under the Low Noise Scenario. The increased DNL at POIs and the surrounding areas would be short-term, minor (R1, R4, S1, S2, W1 through W4, and W7) or moderate (H1, R2 and W8 only), and temporary under the Low Noise Scenario for Eglin AFB. Prior to the relocation of the F-22 FTU aircraft in 2023, the change in DNL under the Low Noise Scenario would result in a minor to moderate noise annoyance increase to sensitive receptors (for noise annoyance definition see the March 2022 EA, **Appendix B-1, Section B.1.4.1**). After the completion of the F-22 FTU aircraft relocation to JBLE-Langley in 2023, the DNL would decrease, and the No Action Alternative (**Section 3.3.8**) would be representative of the Eglin AFB Alternative 1 Low Noise Scenario noise environment in the long term.



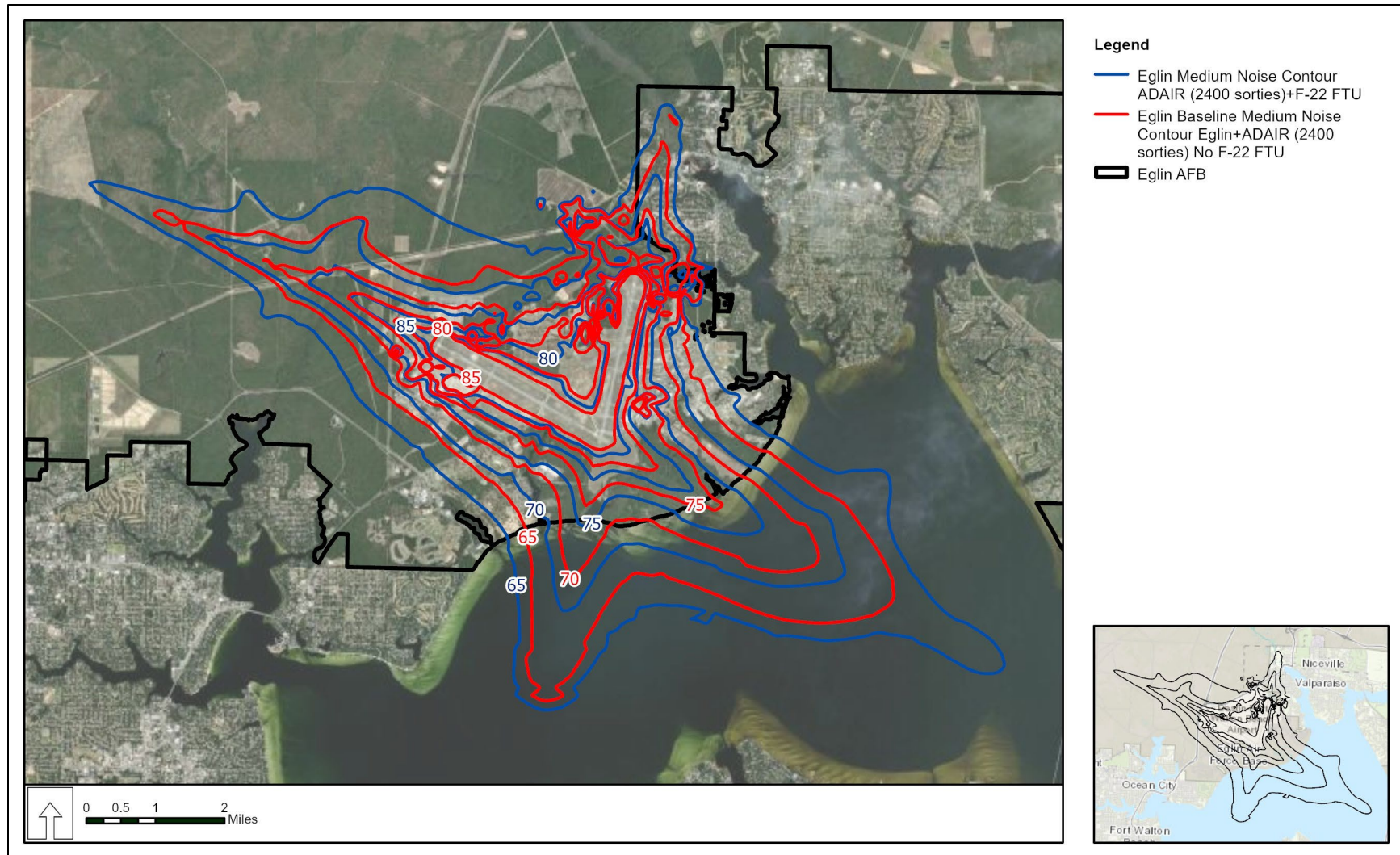


Figure 3-4. Comparison of Medium Noise Scenario and Existing Day-Night Average Sound Level Contours at Eglin Air Force Base.



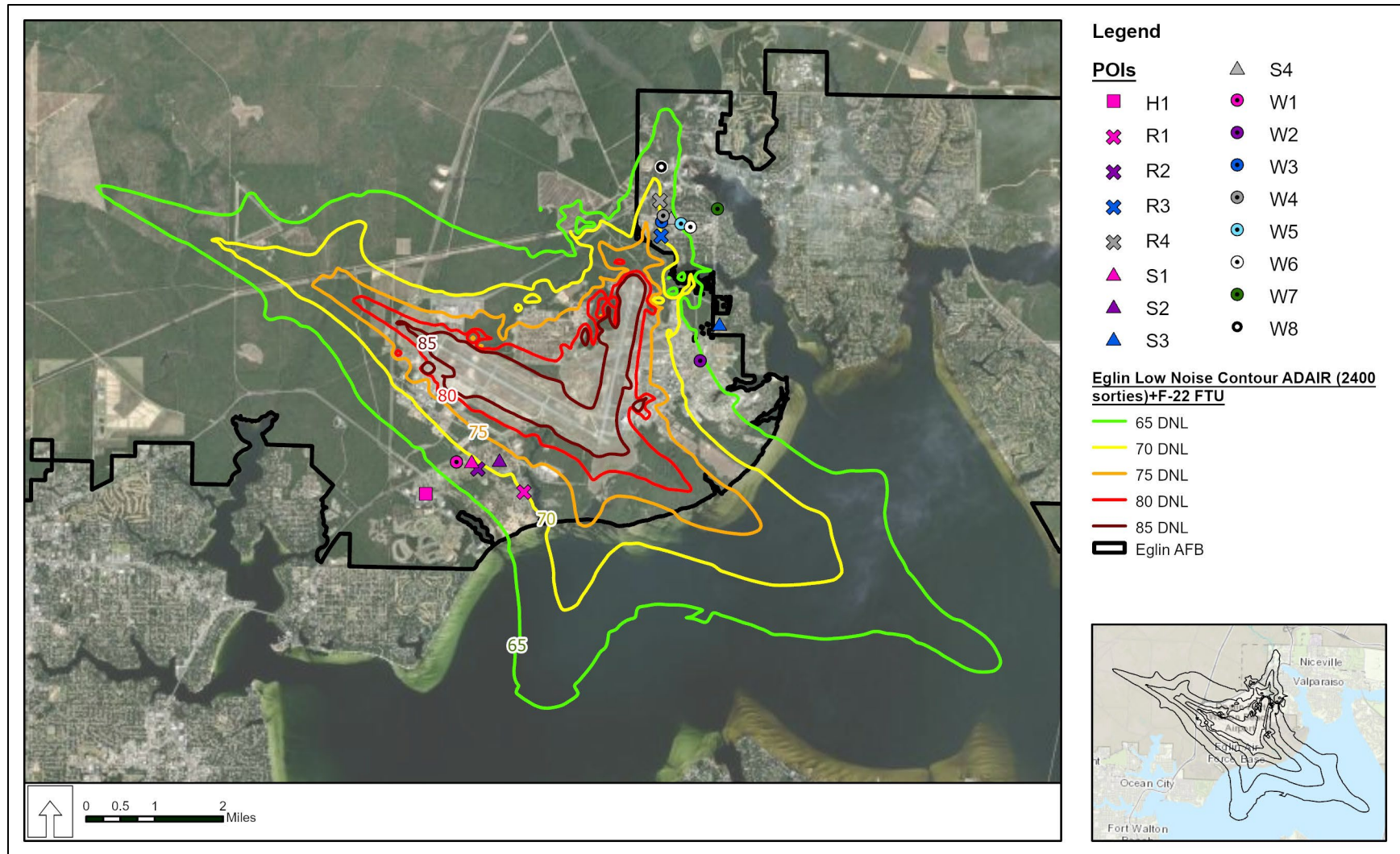


Figure 3-5. Low Noise Scenario Day-Night Average Sound Level Contours at Eglin Air Force Base.

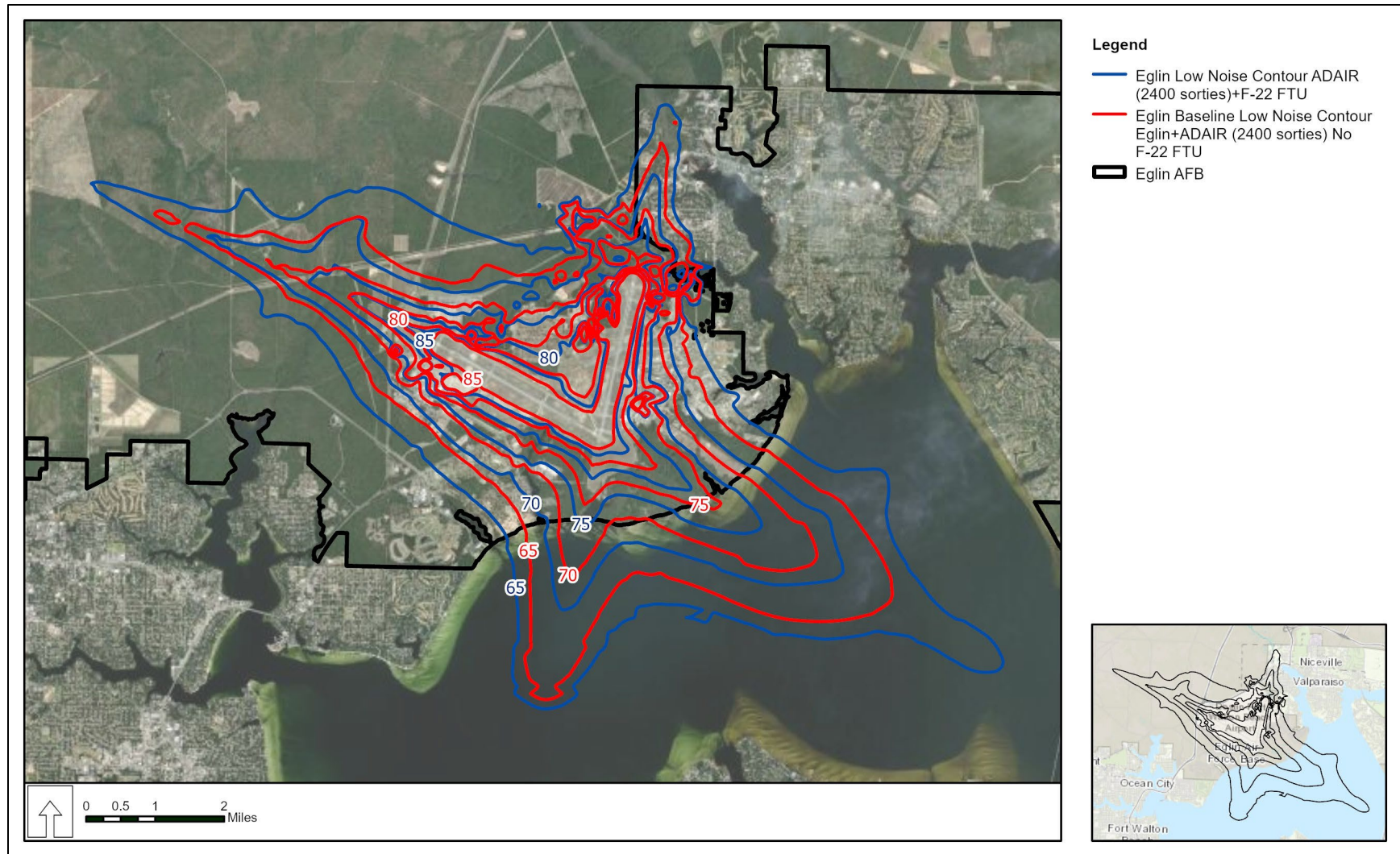


Figure 3-6. Comparison of Low Noise Scenario and Existing Day-Night Average Sound Level Contours at Eglin Air Force Base.

**Table 3-9**  
**Proposed Medium Noise Scenario Day-Night Average Sound Level Area Affected on and Surrounding Eglin Air Force Base<sup>1</sup>**

Noise Level (dBA DNL)	Area within Noise Contour (acres)		
	Calculated Baseline <sup>2</sup>	Medium Noise Scenario	Increase
>65	13,062	18,310	5,248
>70	6,807	9,482	2,675
>75	3,540	4,903	1,363
>80	1,819	2,645	826
>85	951	1,310	359

Notes:

<sup>1</sup> Area (on- and off-airport property) was based off the NOISEMAP-modeled noise contours and used to calculate the amount of land within each noise contour. The amounts shown are cumulative (i.e., the acreage within the >85-dBA DNL contour is also within all the lower noise level contours).

<sup>2</sup> Baseline calculated from existing conditions described in March 2022 EA plus the increase in acres modeled under the Medium Noise Scenario for Alternative 1.

dBA = A-weighted decibel; DNL = day-night average sound level

**Table 3-10**  
**Proposed Medium Noise Scenario Day-Night Average Sound Level at Representative Points of Interest on and near Eglin Air Force Base**

POIs		DNL (dBA)		
ID	Description	Existing Ambient	Medium Noise Scenario	Increase in DNL
H1	Eglin Hospital	59	62	3
R1	Eglin Housing (Capehart)	67	70	3
R2	Eglin Housing (Ben's Lake)	65	69	4
R3	#1 Housing (Valparaiso)	68	70	2
R4	#2 Housing (Valparaiso)	67	70	3
S1	Eglin Elementary School	66	69	3
S2	Eglin Child Development Center	69	72	3
S3	Lewis Middle School (Valparaiso)	59	61	2
S4	Valparaiso Elementary School	64	66	2
W1	Eglin Chapel 2 - Building 2574	65	68	3
W2	Eglin Chapel 1 – Building 868	63	65	2
W3	First Assembly of God (Valparaiso)	66	69	3
W4	New Hope Baptist (Valparaiso)	65	68	3
W5	Sovereign Grace Church (Valparaiso)	63	65	2
W6	First Baptist Church (Valparaiso)	62	64	2
W7	Unitarian Church (Valparaiso)	54	57	3
W8	Niceville Community Church	66	70	4

Note: POI levels based on the NOISEMAP-modeled noise exposures. H=Hospital; R=Residential; S=School; W=Worship; dBA = A-weighted decibel; DNL = day-night average sound level; POI = point of interest

**Table 3-11**  
**Proposed Low Noise Scenario Day-Night Average Sound Level Area Affected on and Surrounding Eglin Air Force Base<sup>1</sup>**

Noise Level (dBA DNL)	Area within Noise Contour (acres)		
	Calculated Baseline <sup>2</sup>	Low Noise Scenario	Increase
>65	13,065	18,324	5,259
>70	6,795	9,471	2,676
>75	3,524	4,892	1,368
>80	1,782	2,653	871
>85	943	1,307	364

Notes:

<sup>1</sup> Area (on- and off-airport property) was based off the NOISEMAP-modeled noise contours and used to calculate the amount of land within each noise contour. The amounts shown are cumulative (i.e., the acreage within the >85-dBA DNL contour is also within all the lower noise level contours).

<sup>2</sup> Baseline calculated from existing conditions described in March 2022 EA plus the increase in acres modeled under the Low Noise Scenario for Alternative 1.

dBA = A-weighted decibel; DNL = day-night average sound level

**Table 3-12**  
**Proposed Low Noise Scenario Day-Night Average Sound Level at Representative Points of Interest on and near Eglin Air Force Base**

POIs		DNL (dBA)		
ID	Description	Existing Ambient	Low Noise Scenario	Increase in DNL
H1	Eglin Hospital	58	62	4
R1	Eglin Housing (Capehart)	67	70	3
R2	Eglin Housing (Ben's Lake)	65	69	4
R3	#1 Housing (Valparaiso)	68	70	2
R4	#2 Housing (Valparaiso)	67	70	3
S1	Eglin Elementary School	66	69	3
S2	Eglin Child Development Center	69	72	3
S3	Lewis Middle School (Valparaiso)	59	61	2
S4	Valparaiso Elementary School	64	66	2
W1	Eglin Chapel 2 – Building 2574	65	68	3
W2	Eglin Chapel 1 – Building 868	63	66	3
W3	First Assembly of God (Valparaiso)	66	69	3
W4	New Hope Baptist (Valparaiso)	65	68	3
W5	Sovereign Grace Church (Valparaiso)	63	65	2
W6	First Baptist Church (Valparaiso)	62	64	2
W7	Unitarian Church (Valparaiso)	54	57	3
W8	Niceville Community Church	66	70	4

Note: POI levels based on the combined AEDT- and NOISEMAP-modeled noise exposures. H=Hospital; R=Residential; S=School; W=Worship; dBA = A-weighted decibel; DNL = day-night average sound level; POI = point of interest



### 3.3.4.2 Special Use Airspace

Under the High, Medium, or Low Noise Scenarios of Alternative 1, contract ADAIR would only operate in the same airspace already used by based Eglin AFB aircraft. A summary of annual airspace operations for Eglin AFB, F-22, T-38, and ADAIR aircraft is presented in **Table 3-13**.

**Table 3-13**  
**Proposed Annual Airspace Operations Summary by Eglin Air Force Base and Contract ADAIR Aircraft (All Noise Scenarios)**

Airspace	Aircraft								Projected Total Operations
	F-35A		F-22		T-38		Contract ADAIR		
	Day	Night	Day	Night	Day	Night	Day	Night	
Warning Area W-151	2,385	322	2,823	385	1,940	265	1,640	222	9,982
Gulf Regional Airspace Strategic Initiative Air Traffic Control Assigned Airspace	596	81	-	-	-	-	410	56	1,143
Warning Area W-470	95	13	-	-	-	-	62	10	180
Total Operations	3,076	416	2,823	385	1,940	265	2,112	288	11,305

Noise analysis of the High, Medium, and Low Noise Scenarios was conducted to analyze changes to the noise levels in the proposed SUA listed in **Table 3-14**. **Table 3-14** shows that under the High, Medium, or Low Noise Scenarios, the noise environment, described by onset-rate adjusted monthly day-night average sound level ( $L_{dnmr}$ ), for Warning Area W-151 would temporarily be 2 dB higher than the existing environment and for W-470 and the GRASI ATCAA it would temporarily be nearly identical to the existing airspace noise environment; therefore, there would be no significant impacts under the High, Medium, or Low Noise Scenarios under Alternative 1. Alternative 1 SUA noise impacts associated with the F-22 FTU would be temporary and would change to the No Action alternative noise environment after the F-22 FTU departs.

**Table 3-14**  
**Existing and Proposed Noise Levels in Airspace**

Airspace	Existing ( $L_{dnmr}$ dB)	High Noise Scenario ( $L_{dnmr}$ dB)	Medium Noise Scenario ( $L_{dnmr}$ dB)	Low Noise Scenario ( $L_{dnmr}$ dB)
Warning Area W-151	60	62	62	62
Gulf Regional Airspace Strategic Initiative Air Traffic Control Assigned Airspace	<45	<45	<45	<45
Warning Area W-470	<45	46	46	46

dB = decibel(s);  $L_{dnmr}$  = onset-rate adjusted monthly day-night average sound level

Single event sonic boom levels were estimated, using the PCBoom program, directly undertrack for F-22 FTU and contract ADAIR supersonic flights in Warning Areas W-151 and W-470 and the GRASI ATCAA

(Table 3-15). Overpressure and C-weighted sound exposure level for the Eglin AFB and F-22 FTU supersonic aircraft are shown for comparison with the F-35A at various altitudes and Mach 1.2.

**Table 3-15**  
**Warning Areas W-151 and W-470 and Gulf Regional Airspace Strategic Initiative Air Traffic Control**  
**Assigned Airspace: Sonic Boom Levels Undertrack for Based and Contract ADAIR Aircraft in**  
**Level Flight at Mach 1.2**

Aircraft	Altitude (feet above mean sea level)		
	25,000	35,000	45,000
<b>Mach 1.2</b>			
<b>Overpressure (pound[s] per square foot)</b>			
F-35A	2.3	1.6	1.3
F-22	2.3	1.6	1.3
Eurofighter Typhoon	2.2	1.6	1.3
Dassault Mirage	1.8	1.3	1.0
JAS 39 Gripen	1.8	1.3	1.0
<b>CSEL (decibels)</b>			
F-35A	108.7	105.8	103.8
F-22	108.7	105.8	103.8
Eurofighter Typhoon	108.4	105.6	103.9
Dassault Mirage	106.6	103.7	101.7
JAS 39 Gripen	106.6	103.7	101.7

Note: C-weighted sound exposure level (CSEL) – sound exposure level with frequency weighting that places more emphasis on low frequencies below 1,000 hertz

The sonic boom levels listed in **Table 3-15** are the loudest levels computed at the center of the footprint for the constant Mach, level flight conditions indicated. Supersonic flights are allowed in W-151 and W-470 and the GRASI ATCAA beyond 15 NM from land and typical usage is between 25,000 and 45,000 ft. The location of these booms would vary with changing flight paths and weather conditions, so it is unlikely that any given location would experience these undertrack levels more than once over multiple events. Overpressure levels, directly under the flight path, estimated for W-151 and W-470 and the GRASI ATCAA would range from 2.3 to 1.0 pound per square foot (psf) depending on the flight conditions. Public reaction may occur with overpressures above 1 psf, and in rare instances, damage to structures have occurred at overpressures between 2 and 5 psf (NASA, 2017). People located farther away from the supersonic flight paths, who are still within the primary boom carpet, might also be exposed to levels that may be startling or annoying, but the probability of this decreases the farther away they are from the flight path (NASA, 2017). People located beyond the edge of the boom carpet are not expected to be exposed to sonic boom, although post boom rumbling sounds may be heard. The addition of F-22 FTU aircraft operating at supersonic speeds means that the number of sonic booms heard would likely increase temporarily; however, potential impacts associated with sonic booms are still expected to be negligible under Alternative 1.

### **3.3.5 Environmental Consequences – Alternative 2: Additional (Plus Up) Contract ADAIR with F-22 FTU (Eglin)**

The High, Medium, and Low Scenario methodology for noise impact analysis of Alternative 2 follows the same methodology as Alternative 1 (**Section 3.3.4**).

### 3.3.5.1 Eglin Air Force Base

#### High Noise Scenario

Implementation of the Proposed Action High Noise Scenario would result in a 51 percent increase in the number of operations at Eglin AFB associated with the temporary addition of the F-22 FTU (19,764 F-22 and 11,273 T-38 operations) and the additional 600 contract ADAIR sorties (or 1,260 operations). Contract ADAIR would fly 3.5 percent of the estimated total 3,000 sorties during environmental night hours of 10:00 pm to 7:00 am local time, when the effects of aircraft noise are accentuated. Contractor night sorties would be flown during the Eglin AFB approved flying window. Runway utilization, flight tracks, and flight track utilization for contract ADAIR aircraft would be similar to the existing aircraft operations at Eglin AFB. Proposed annual departure, arrival, and closed pattern aircraft operations at Eglin AFB with the addition of the F-22 FTU and contract ADAIR are listed in **Table 3-16**. The F-22 FTU and contract ADAIR would also perform static run-up operations, such as pre- and postflight run-ups.

**Table 3-16**  
**Proposed High Noise Scenario Annual Aircraft Operations Summary at Eglin Air Force Base**

Aircraft	Departures		Arrivals		Closed Patterns		Total Operations		
	Day	Night	Day	Night	Day	Night	Day	Night	Total
F-35A	10,780	220	10,452	548	5,398	102	26,630	870	27,500
F-22	4,304	88	4,172	220	10,760	220	19,236	528	19,764
T-38	5,368	0	5,368	0	537	0	11,273	0	11,273
Other Based Military	3,490	48	3,453	85	5,132	0	12,075	133	12,208
Civilian	6,821	696	7,178	339	132	0	14,131	1,035	15,166
Transient	639	0	639	0	2,156	0	3,434	0	3,434
Contract ADAIR	2,936	64	2,851	149	300	0	6,088	213	6,300
<b>Grand Total</b>	<b>34,338</b>	<b>1,116</b>	<b>34,113</b>	<b>1,341</b>	<b>24,415</b>	<b>322</b>	<b>92,867</b>	<b>2,779</b>	<b>95,645</b>

The resultant 65- to 85-dBA DNL contours in 5-dBA increments for the daily flight operations at Eglin AFB under the proposed High Noise Scenario are depicted on **Figure 3-7** along with the representative POIs.

The noise levels generated by High Noise Scenario F-22 FTU and contract ADAIR aircraft would increase the overall noise environment in the vicinity of Eglin AFB. A comparison of the DNL noise contours of the High Noise Scenario and the existing conditions is depicted on **Figure 3-8**, and the change in area within noise contours as a result of the High Noise Scenario is listed in **Table 3-17**.

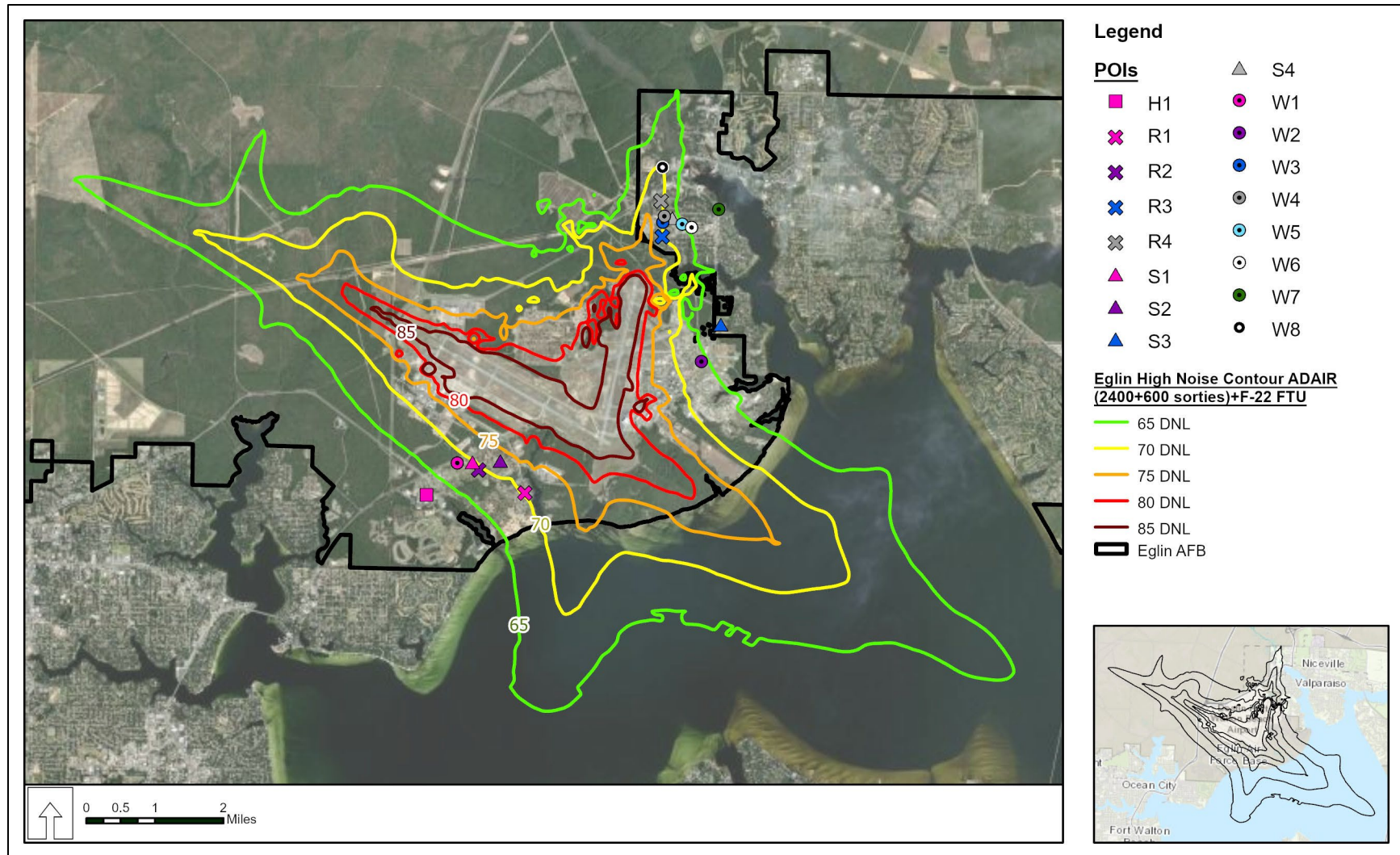


Figure 3-7. High Noise Scenario Day-Night Average Sound Level Contours at Eglin Air Force Base.



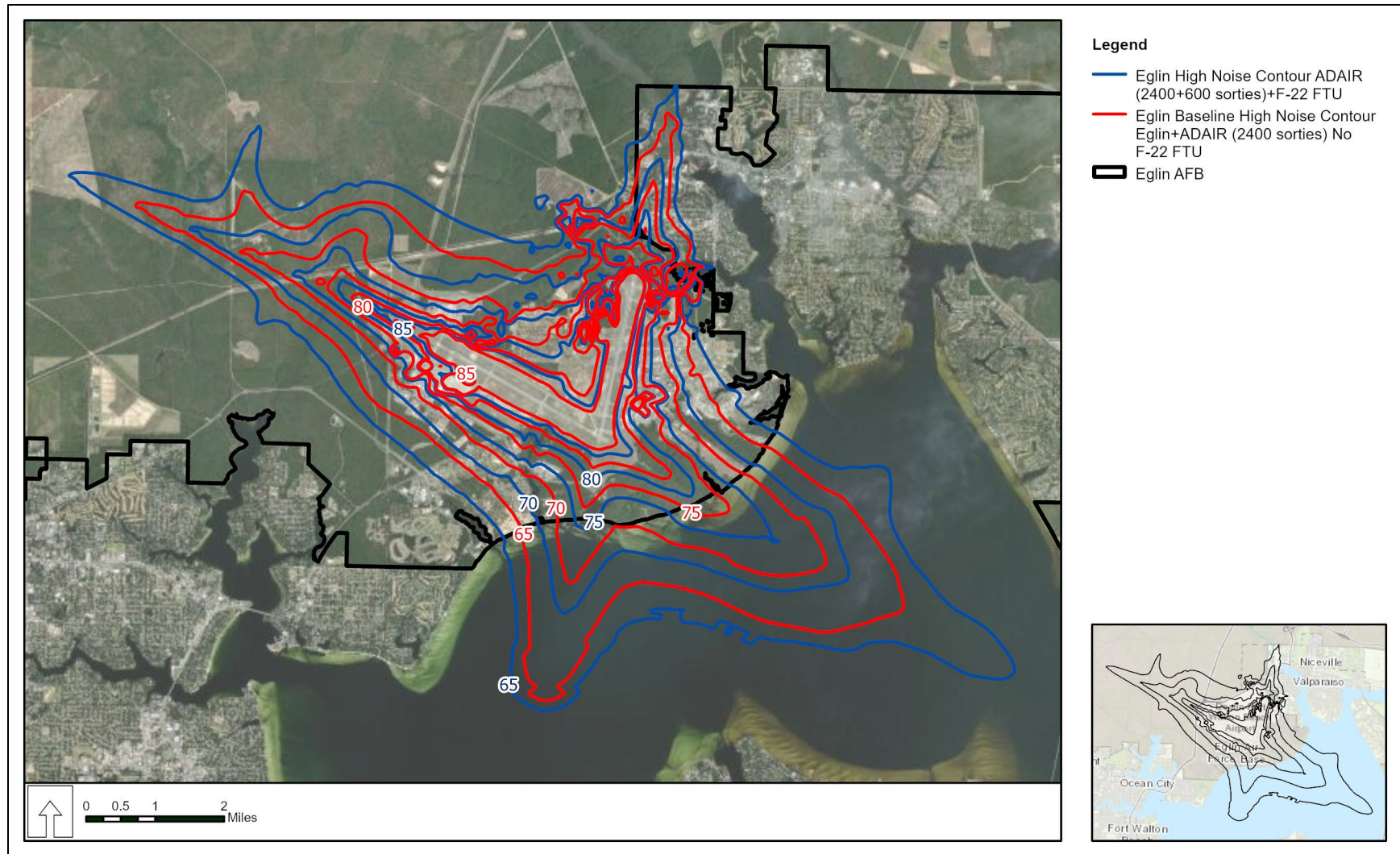


Figure 3-8. Comparison of High Noise Scenario and Existing Day-Night Average Sound Level Contours at Eglin Air Force Base.

**Table 3-17**  
**Proposed High Noise Scenario Day-Night Average Sound Level Area Affected on and Surrounding Eglin Air Force Base<sup>1</sup>**

Noise Level (dBA DNL)	Area within Noise Contour (acres)		
	Calculated Baseline <sup>2</sup>	High Noise Scenario	Increase
>65	14,759	19,882	5,123
>70	7,613	10,398	2,785
>75	3,877	5,302	1,425
>80	2,000	2,839	839
>85	1,005	1,400	395

Notes:

<sup>1</sup> Area (on- and off-airport property) was based off the NOISEMAP-modeled noise contours and used to calculate the amount of land within each noise contour. The amounts shown are cumulative (i.e., the acreage within the >85-dBA DNL contour is also within all the lower noise level contours).

<sup>2</sup> Baseline calculated from existing conditions described in March 2022 EA plus the increase in acres modeled under the High Noise Scenario for Alternative 2.

dBA = A-weighted decibel; DNL = day-night average sound level

As a result of the implementation of the High Noise Scenario, noise levels at representative POIs described in the March 2022 EA would increase (**Table 3-18**). At the representative noise sensitive locations modeled, the DNL would increase by an amount ranging from 2 to 4 dBA under the High Noise Scenario. The increased DNL at these POIs and the surrounding areas would be short-term, minor (at R1, R2, R4, S2 through S4, W1 through W4, and W8) or moderate (H1 and S1 only), and temporary under the High Noise Scenario for Eglin AFB. Prior to the relocation of the F-22 FTU aircraft in 2023, the change in DNL under the High Noise Scenario would result in a minor to moderate noise annoyance increase to sensitive receptors (for noise annoyance definition see the March 2022 EA, **Appendix B-1, Section B.1.4.1**). After the completion of the F-22 FTU aircraft relocation to JBLE-Langley in 2023, the DNL would decrease, and Alternative 3 (**Section 3.3.6**) would be representative of the Eglin AFB Alternative 2 High Noise Scenario noise environment in the long term.

**Table 3-18**  
**Proposed High Noise Scenario Day-Night Average Sound Level at Representative Points of Interest on and near Eglin Air Force Base**

POIs		DNL (dBA)		
ID	Description	Existing Ambient	High Noise Scenario	Increase in DNL
H1	Eglin Hospital	59	63	4
R1	Eglin Housing (Capehart)	68	71	3
R2	Eglin Housing (Ben's Lake)	66	69	3
R3	#1 Housing (Valparaiso)	68	70	2
R4	#2 Housing (Valparaiso)	68	71	3
S1	Eglin Elementary School	66	70	4
S2	Eglin Child Development Center	70	73	3
S3	Lewis Middle School (Valparaiso)	59	62	3
S4	Valparaiso Elementary School	64	67	3
W1	Eglin Chapel 2 – Building 2574	65	68	3
W2	Eglin Chapel 1 - Building 868	63	66	3
W3	First Assembly of God (Valparaiso)	66	69	3

**Table 3-18**  
**Proposed High Noise Scenario Day-Night Average Sound Level at Representative Points of Interest on and near Eglin Air Force Base**

POIs		DNL (dBA)		
ID	Description	Existing Ambient	High Noise Scenario	Increase in DNL
W4	New Hope Baptist (Valparaiso)	66	69	3
W5	Sovereign Grace Church (Valparaiso)	63	65	2
W6	First Baptist Church (Valparaiso)	62	64	2
W7	Unitarian Church (Valparaiso)	55	57	2
W8	Niceville Community Church	67	70	3

Note: POI levels based on the NOISEMAP-modeled noise exposures.

H=Hospital; R=Residential; S=School; W=Worship; dBA = A-weighted decibel; DNL = day-night average sound level; POI = point of interest

### Medium Noise Scenario

The operation numbers, day/night distribution, and runway utilization for the Medium Noise Scenario would be identical to those of the High Noise Scenario.

The resultant 65- to 85-dBA DNL contours in 5-dBA increments for the daily flight events at Eglin AFB under the proposed Medium Noise Scenario are depicted on **Figure 3-9** along with the representative POIs.

The noise levels generated by Medium Noise Scenario F-22 FTU and contract ADAIR aircraft would increase the overall noise environment in the vicinity of Eglin AFB. A comparison of the DNL noise contours of the Medium Noise Scenario and the existing conditions is depicted on **Figure 3-10**, and the change in area within noise contours as a result of the Medium Noise Scenario is listed in **Table 3-19**.

As a result of the implementation of the Medium Noise Scenario, noise levels at representative POIs described in the March 2022 EA would increase (**Table 3-20**). At the representative noise sensitive locations modeled, the DNL would increase by an amount ranging from 2 to 4 dBA under the Medium Noise Scenario. The increased DNL at these POIs and the surrounding areas would be short-term, minor (H1, R1, R4, S1, S2, W1, W3, W4, and W7) or moderate (R2 and W8 only), and temporary under the Medium Noise Scenario for Eglin AFB. Prior to the relocation of the F-22 FTU aircraft in 2023, the change in DNL under the Medium Noise Scenario would result in a minor to moderate noise annoyance increase to sensitive receptors (for noise annoyance definition see the March 2022 EA, **Appendix B-1, Section B.1.4.1**). After the completion of the F-22 FTU aircraft relocation to JBLE-Langley in 2023, the DNL would decrease, and Alternative 3 (**Section 3.3.6**) would be representative of the Eglin AFB Alternative 2 Medium Noise Scenario noise environment in the long term.

### Low Noise Scenario

The operation numbers, day/night distribution, and runway utilization for the Low Noise Scenario would be identical to those of the High Noise Scenario.

The resultant 65- to 85-dBA DNL contours in 5-dBA increments for the daily flight events at Eglin AFB under the proposed Low Noise Scenario are depicted on **Figure 3-11** along with the representative POIs.

The noise levels generated by Low Noise Scenario F-22 FTU and contract ADAIR aircraft would increase the overall noise environment in the vicinity of Eglin AFB. A comparison of the DNL noise contours of the Low Noise Scenario and the existing conditions is depicted on **Figure 3-12**, and the change in area within noise contours as a result of the Low Noise Scenario is listed in **Table 3-21**.

As a result of the implementation of the Low Noise Scenario, noise levels at representative POIs described in the March 2022 EA would increase (**Table 3-22**). At the representative noise sensitive locations modeled,

the DNL would increase by an amount ranging from 2 to 4 dBA under the Low Noise Scenario. The increased DNL at these POIs and the surrounding areas would be short-term, minor (R1, R4, S1, S2, W1 through W4, and W7) or moderate (H1, R2, and W8 only), and temporary under the Low Noise Scenario for Eglin AFB. Prior to the relocation of the F-22 FTU aircraft in 2023, the change in DNL under the Low Noise Scenario would result in a minor to moderate noise annoyance increase to sensitive receptors (for noise annoyance definition see the March 2022 EA, **Appendix B-1, Section B.1.4.1**). After the completion of the F-22 FTU aircraft relocation to JBLE-Langley in 2023, the DNL would decrease, and Alternative 3 (**Section 3.3.6**) would be representative of the Eglin AFB Alternative 2 Low Noise Scenario noise environment in the long term.

**Table 3-19  
Proposed Medium Noise Scenario Day-Night Average Sound Level Area Affected on and  
Surrounding Eglin Air Force Base<sup>1</sup>**

Noise Level (dBA DNL)	Area within Noise Contour (acres)		
	Calculated Baseline <sup>2</sup>	Medium Noise Scenario	Increase
>65	13,062	18,386	5,324
>70	6,807	9,529	2,722
>75	3,540	4,931	1,391
>80	1,819	2,692	873
>85	951	1,324	373

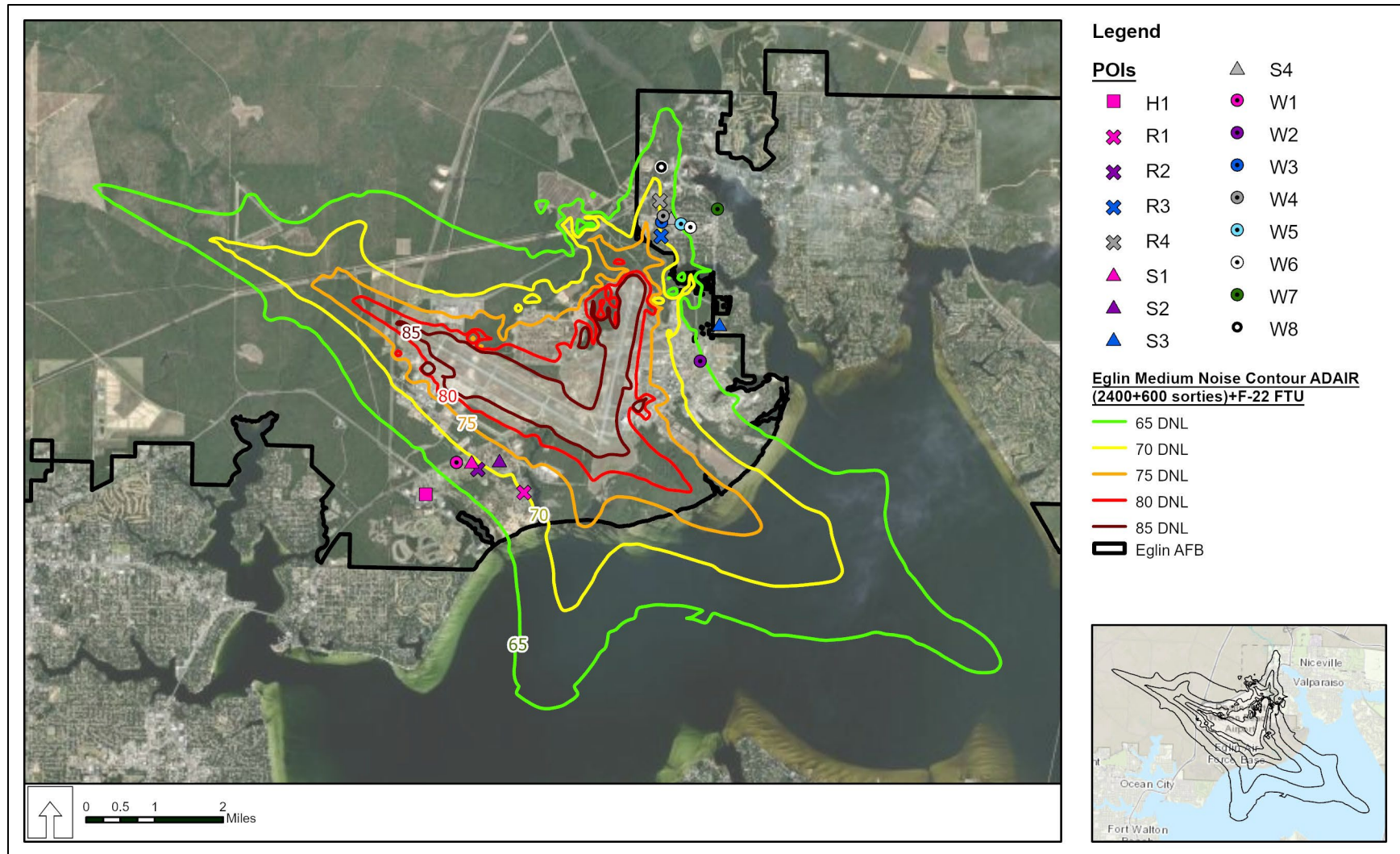
Notes:

<sup>1</sup> Area (on- and off-airport property) was based off the NOISEMAP-modeled noise contours and used to calculate the amount of land within each noise contour. The amounts shown are cumulative (i.e., the acreage within the >85-dBA DNL contour is also within all the lower noise level contours).

<sup>2</sup> Baseline calculated from existing conditions described in March 2022 EA plus the increase in acres modeled under the Medium Noise Scenario for Alternative 2.

dBA = A-weighted decibel; DNL = day-night average sound level





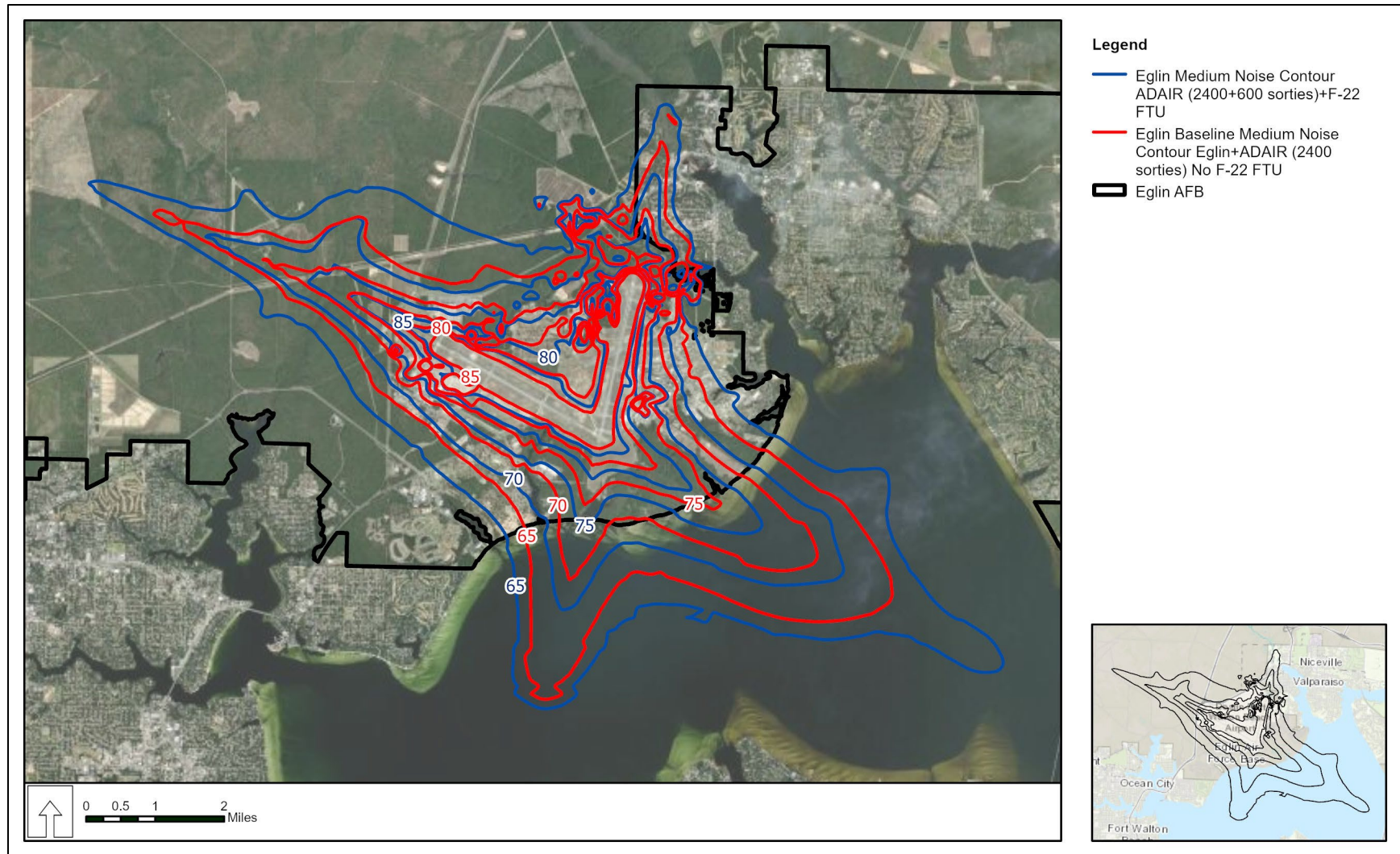


Figure 3-10. Comparison of Medium Noise Scenario and Existing Day-Night Average Sound Level Contours at Eglin Air Force Base.

**Table 3-20  
Proposed Medium Noise Scenario Day-Night Average Sound Level at Representative Points of  
Interest on and near Eglin Air Force Base**

POIs		DNL (dBA)		
ID	Description	Existing Ambient	Medium Noise Scenario	Increase in DNL
H1	Eglin Hospital	59	62	3
R1	Eglin Housing (Capehart)	67	70	3
R2	Eglin Housing (Ben's Lake)	65	69	4
R3	#1 Housing (Valparaiso)	68	70	2
R4	#2 Housing (Valparaiso)	67	70	3
S1	Eglin Elementary School	66	69	3
S2	Eglin Child Development Center	69	72	3
S3	Lewis Middle School (Valparaiso)	59	61	2
S4	Valparaiso Elementary School	64	66	2
W1	Eglin Chapel 2 - Building 2574	65	68	3
W2	Eglin Chapel 1 – Building 868	63	65	2
W3	First Assembly of God (Valparaiso)	66	69	3
W4	New Hope Baptist (Valparaiso)	65	68	3
W5	Sovereign Grace Church (Valparaiso)	63	65	2
W6	First Baptist Church (Valparaiso)	62	64	2
W7	Unitarian Church (Valparaiso)	54	57	3
W8	Niceville Community Church	66	70	4

Note: POI levels based on the NOISEMAP-modeled noise exposures. H=Hospital; R=Residential; S=School; W=Worship; dBA = A-weighted decibel; DNL = day-night average sound level; POI = point of interest



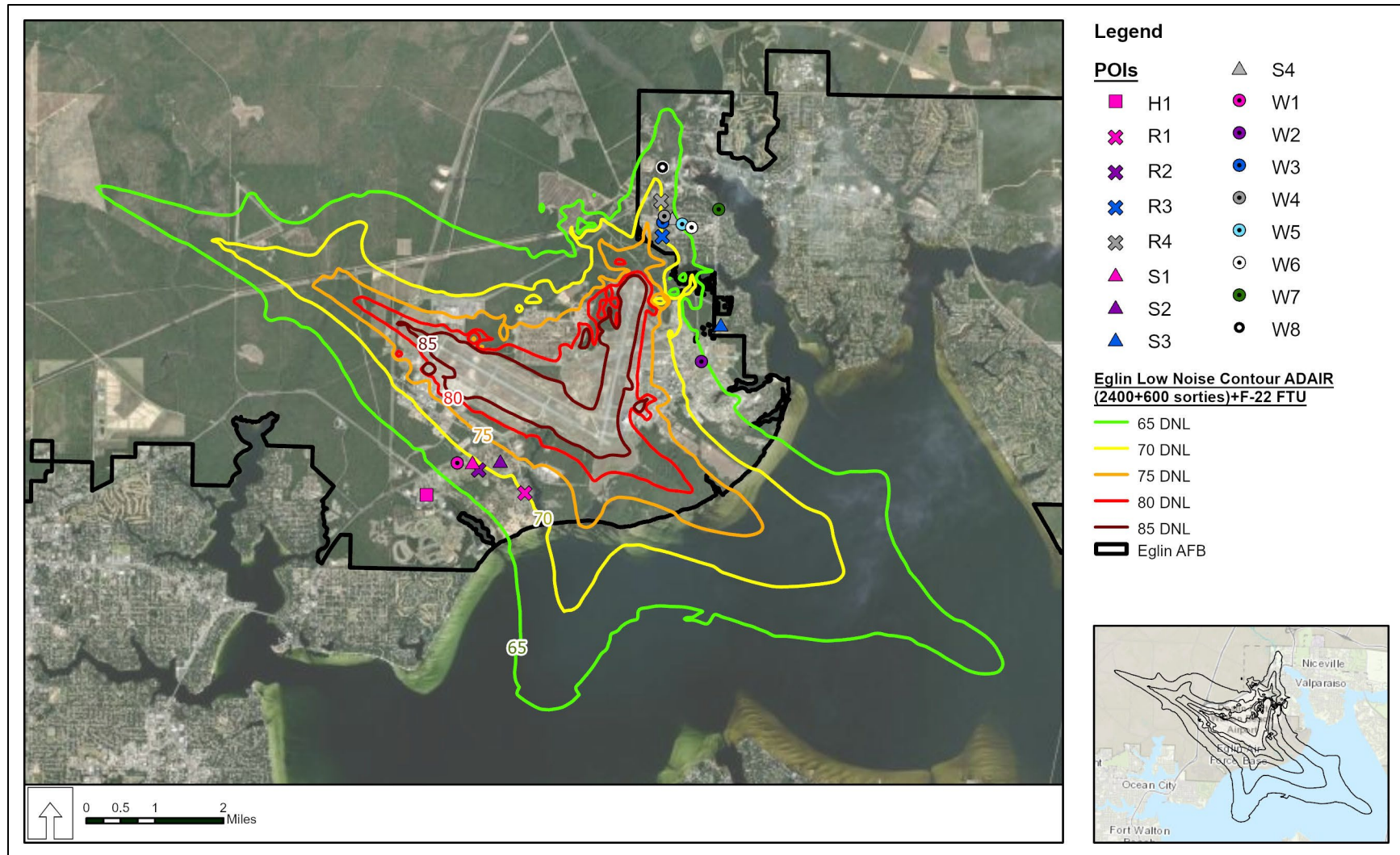


Figure 3-11. Low Noise Scenario Day-Night Average Sound Level Contours at Eglin Air Force Base.

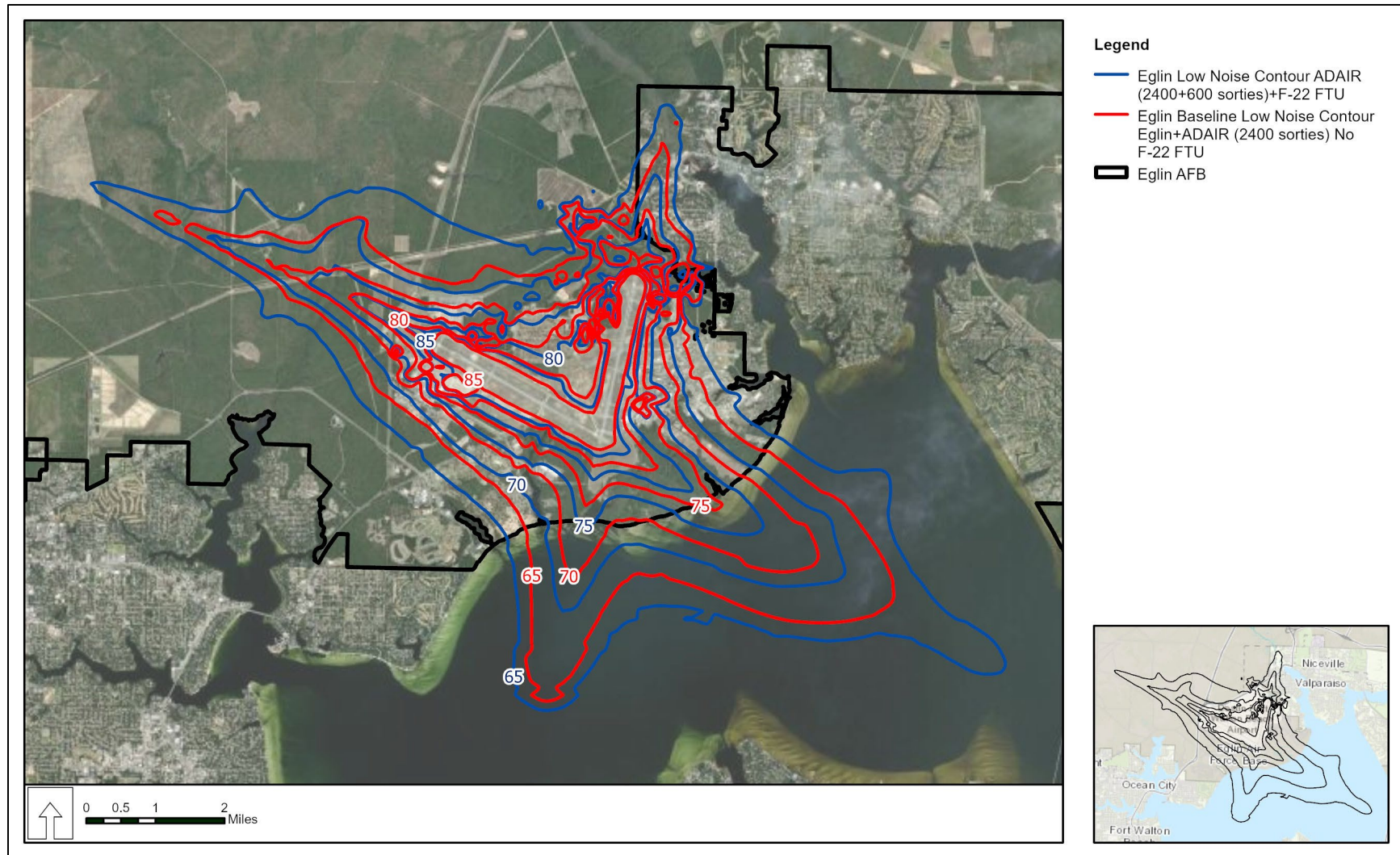


Figure 3-12. Comparison of Low Noise Scenario and Existing Day-Night Average Sound Level Contours at Eglin Air Force Base.

**Table 3-21**  
**Proposed Low Noise Scenario Day-Night Average Sound Level Area Affected on and Surrounding Eglin Air Force Base<sup>1</sup>**

Noise Level (dBA DNL)	Area within Noise Contour (acres)		
	Calculated Baseline <sup>2</sup>	Low Noise Scenario	Increase
>65	13,065	18,405	5,340
>70	6,795	9,513	2,718
>75	3,524	4,945	1,421
>80	1,782	2,684	902
>85	943	1,319	376

Notes:

<sup>1</sup> Area (on- and off-airport property) was based off the NOISEMAP-modeled noise contours and used to calculate the amount of land within each noise contour. The amounts shown are cumulative (i.e., the acreage within the >85-dBA DNL contour is also within all the lower noise level contours).

<sup>2</sup> Baseline calculated from existing conditions described in March 2022 EA plus the increase in acres modeled under the Low Noise Scenario for Alternative 2.

dBA = A-weighted decibel; DNL = day-night average sound level

**Table 3-22**  
**Proposed Low Noise Scenario Day-Night Average Sound Level at Representative Points of Interest on and near Eglin Air Force Base**

POIs		DNL (dBA)		
ID	Description	Existing	Low Noise Scenario	Increase in DNL
H1	Eglin Hospital	58	62	4
R1	Eglin Housing (Capehart)	67	70	3
R2	Eglin Housing (Ben's Lake)	65	69	4
R3	#1 Housing (Valparaiso)	68	70	2
R4	#2 Housing (Valparaiso)	67	70	3
S1	Eglin Elementary School	66	69	3
S2	Eglin Child Development Center	69	72	3
S3	Lewis Middle School (Valparaiso)	59	61	2
S4	Valparaiso Elementary School	64	66	2
W1	Eglin Chapel 2 – Building 2574	65	68	3
W2	Eglin Chapel 1 – Building 868	63	66	3
W3	First Assembly of God (Valparaiso)	66	69	3
W4	New Hope Baptist (Valparaiso)	65	68	3
W5	Sovereign Grace Church (Valparaiso)	63	65	2
W6	First Baptist Church (Valparaiso)	62	64	2
W7	Unitarian Church (Valparaiso)	54	57	3
W8	Niceville Community Church	66	70	4

Note: POI levels based on the combined AEDT- and NOISEMAP-modeled noise exposures. H=Hospital; R=Residential; S=School; W=Worship; dBA = A-weighted decibel; DNL = day-night average sound level; POI = point of interest

### 3.3.5.2 Special Use Airspace

Under the High, Medium, or Low Noise Scenarios of Alternative 2, F-22, T-38, and contract ADAIR aircraft would perform an estimated 3,208, 2,205, and 3,000 annual operations in the SUA proposed for use, respectively. Contract ADAIR would only operate in the same airspace already used by based Eglin AFB aircraft. A summary of annual airspace operations for Eglin AFB and the F-22, T-38 and contract ADAIR aircraft is presented in **Table 3-23**.

**Table 3-23**  
**Proposed Annual Airspace Operations Summary by Eglin Air Force Base and Contract ADAIR Aircraft (All Scenarios)**

Airspace	Aircraft								Projected Total Operations
	F-35A		F-22		T-38		Contract ADAIR		
	Day	Night	Day	Night	Day	Night	Day	Nigh t	
Warning Area W-151	2,385	322	2,823	385	1,940	265	2,050	278	10,448
Gulf Regional Airspace Strategic Initiative Air Traffic Control Assigned Airspace	596	81	-	-	-	-	512	70	1,259
Warning Area W-470	95	13	-	-	-	-	78	12	198
Total Operations	3,076	416	2,823	385	1,940	265	2,640	360	11,905

Noise analysis of the High, Medium, and Low Noise Scenarios was conducted to analyze changes to the noise levels in the proposed SUA listed in **Table 3-24**. **Table 3-24** shows that under the High, Medium, or Low Noise Scenarios, the noise environment, described by  $L_{dnmr}$ , for Warning Area W-151 would be 2 dB higher than the existing environment and for W-470 and the GRASI ATCAA would be nearly identical to the existing airspace noise environments; therefore, there would be no significant impacts under the High, Medium, or Low Noise Scenarios under Alternative 2. Alternative 2 SUA noise impacts associated with the F-22 FTU would be temporary and would change to the Alternative 3 noise environment after the F-22 FTU departs.

**Table 3-24**  
**Existing and Proposed Noise Levels in the Airspace Proposed for Use**

Airspace	Existing ( $L_{dnmr}$ dB)	High Noise Scenario ( $L_{dnmr}$ dB)	Medium Noise Scenario ( $L_{dnmr}$ dB)	Low Noise Scenario ( $L_{dnmr}$ dB)
Warning Area W-151	60	62	62	62
Gulf Regional Airspace Strategic Initiative Air Traffic Control Assigned Airspace	<45	<45	<45	<45
Warning Area W-470	<45	46	46	46

dB = decibel(s);  $L_{dnmr}$  = onset-rate adjusted monthly day-night average sound level



Single event sonic boom levels were estimated, using the PCBoom program, directly undertrack for F-22 and contract ADAIR supersonic flights in Warning Areas W-151 and W-470 and the GRASI ATCAA (**Table 3-25**). Overpressure and C-weighted sound exposure level for F-22 and contract ADAIR supersonic aircraft are shown for comparison with the F-35A at various altitudes and Mach 1.2.

**Table 3-25**  
**Warning Areas W-151 and W-470 and Gulf Regional Airspace Strategic Initiative Air Traffic Control**  
**Assigned Airspace: Sonic Boom Levels Undertrack for Based and Contract ADAIR Aircraft in**  
**Level Flight at Mach 1.2**

Aircraft	Altitude (feet above mean sea level)		
	25,000	35,000	45,000
<b>Mach 1.2</b>			
<b>Overpressure (pound[s] per square foot)</b>			
F-35A	2.3	1.6	1.3
F-22	2.3	1.6	1.3
Eurofighter Typhoon	2.2	1.6	1.3
Dassault Mirage	1.8	1.3	1.0
JAS 39 Gripen	1.8	1.3	1.0
<b>CSEL (decibels)</b>			
F-35A	108.7	105.8	103.8
F-22	108.7	105.8	103.8
Eurofighter Typhoon	108.4	105.6	103.9
Dassault Mirage	106.6	103.7	101.7
JAS 39 Gripen	106.6	103.7	101.7

Note: C-weighted sound exposure level (CSEL) – sound exposure level with frequency weighting that places more emphasis on low frequencies below 1,000 hertz

The sonic boom levels listed in **Table 3-25** are the loudest levels computed at the center of the footprint for the constant Mach, level flight conditions indicated. Supersonic flights are allowed in Warning Areas W-151 and W-470 and the GRASI ATCAA beyond 15 NM from land and typical usage is between 25,000 and 45,000 ft. The location of these booms would vary with changing flight paths and weather conditions, so it is unlikely that any given location would experience these undertrack levels more than once over multiple events. Overpressure levels, directly under the flight path, estimated for Warning Areas W-151 and W-470 and the GRASI ATCAA would range from 2.3 to 1.0 psf depending on the flight conditions. Public reaction may occur with overpressures above 1 psf, and in rare instances, damage to structures have occurred at overpressures between 2 and 5 psf (NASA, 2017). People located farther away from the supersonic flight paths, who are still within the primary boom carpet, might also be exposed to levels that may be startling or annoying, but the probability of this decreases the farther away they are from the flight path. People located beyond the edge of the boom carpet are not expected to be exposed to sonic boom, although post boom rumbling sounds may be heard. The temporary addition of F-22 FTU and contract ADAIR aircraft operating at supersonic speeds means that the number of sonic booms heard would likely increase; however, potential impacts associated with sonic booms would still be expected to be negligible under Alternative 2.

### 3.3.6 Environmental Consequences – Alternative 3

The High, Medium, and Low Scenario methodology for noise impact analysis of Alternative 3 follows the same methodology as Alternative 1 (**Section 3.3.4**).



### 3.3.6.1 Eglin Air Force Base

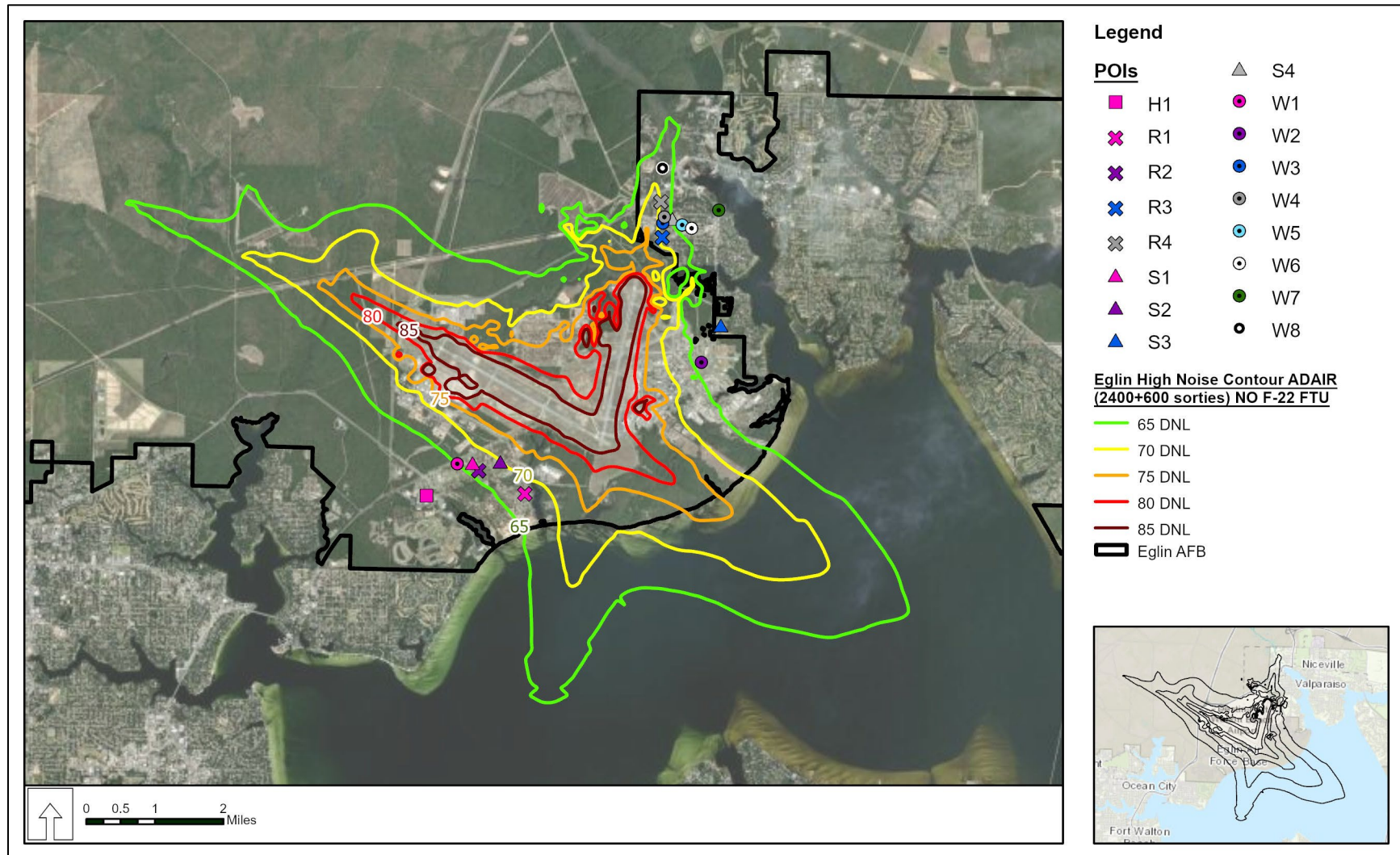
#### High Noise Scenario

Implementation of the Proposed Action High Noise Scenario would result in an approximate 2 percent increase in the number of operations at Eglin AFB due to an additional 600 contract ADAIR sorties (1,260 operations). Contract ADAIR would fly 3.5 percent of the estimated 3,000 sorties during environmental night hours of 10:00 pm to 7:00 am local time, when the effects of aircraft noise are accentuated. Contractor night sorties would be flown during the Eglin AFB approved flying window. Runway utilization, flight tracks, and flight track utilization for contract ADAIR aircraft would be similar to the existing aircraft operations at Eglin AFB. Proposed annual departure, arrival, and closed pattern aircraft operations at Eglin AFB with the addition of contract ADAIR are listed in **Table 3-26**. Contract ADAIR would also perform static run-up operations, such as pre- and postflight run-ups.

**Table 3-26  
Proposed High Noise Scenario Annual Aircraft Operations Summary at Eglin Air Force Base**

Aircraft	Departures		Arrivals		Closed Patterns		Total Operations		
	Day	Night	Day	Night	Day	Night	Day	Night	Total
F-35A	10,780	220	10,452	548	5,398	102	26,630	870	27,500
Other Based Military	3,490	48	3,453	85	5,132	0	12,075	133	12,208
Civilian	6,821	696	7,178	339	132	0	14,131	1,035	15,166
Transient	639	0	639	0	2,156	0	3,434	0	3,434
Contract ADAIR	2,936	64	2,851	149	300	0	6,088	213	6,300
<b>Grand Total</b>	<b>24,666</b>	<b>1,028</b>	<b>24,573</b>	<b>1,121</b>	<b>13,118</b>	<b>102</b>	<b>62,358</b>	<b>2,251</b>	<b>64,608</b>

The resultant 65- to 85-dBA DNL contours in 5-dBA increments for the daily flight events at Eglin AFB under the proposed High Noise Scenario are depicted on **Figure 3-13** along with the representative POIs. The noise levels generated by High Noise Scenario contract ADAIR aircraft would increase the overall noise environment in the vicinity of Eglin AFB. A comparison of the DNL noise contours of the High Noise Scenario and the existing conditions is depicted on **Figure 3-14**, and the change in area within noise contours as a result of the High Noise Scenario is listed in **Table 3-27**.



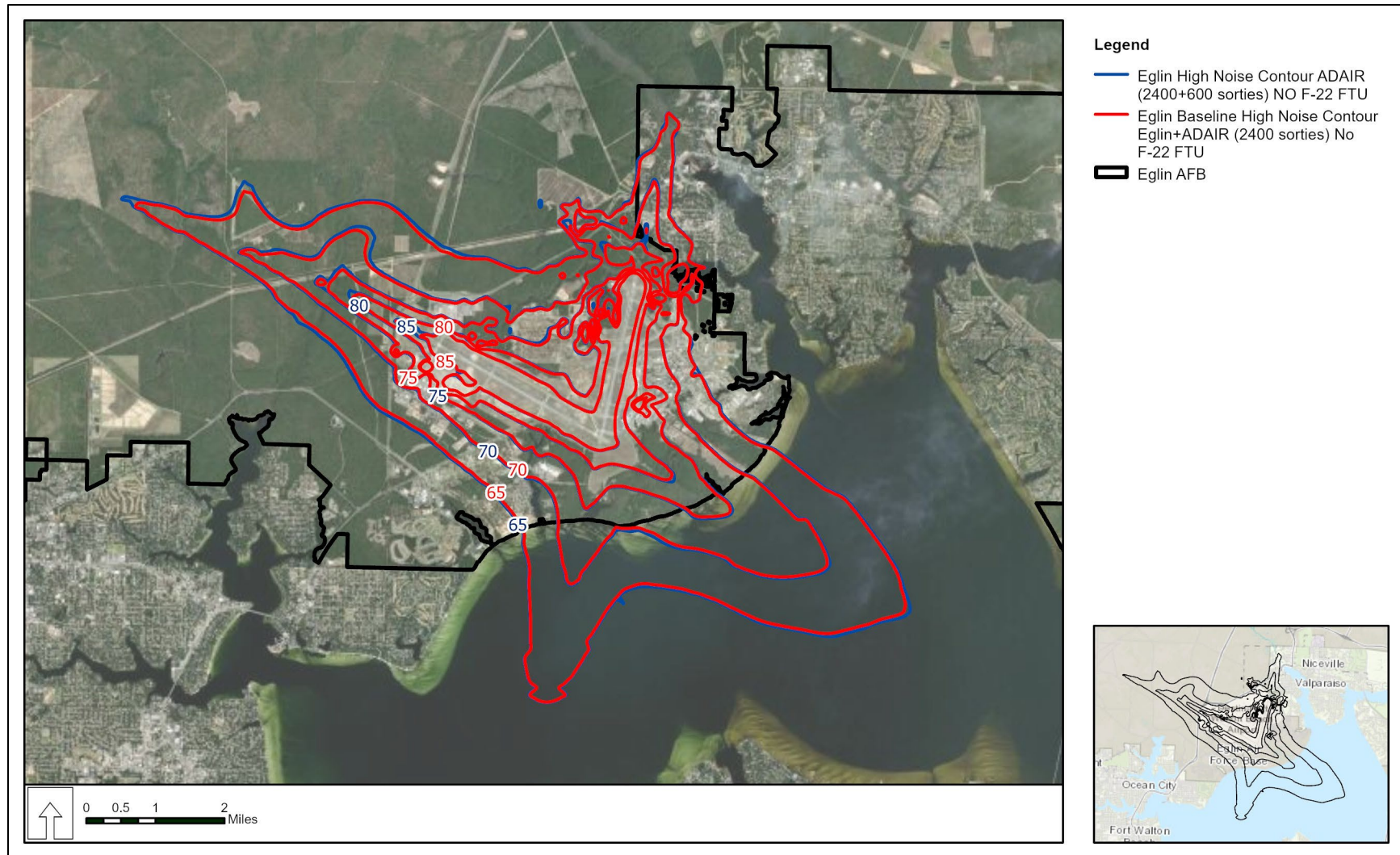


Figure 3-14. Comparison of High Noise Scenario and Existing Day-Night Average Sound Level Contours at Eglin Air Force Base.

**Table 3-27**  
**Proposed High Noise Scenario Day-Night Average Sound Level Area Affected on and Surrounding Eglin Air Force Base<sup>1</sup>**

Noise Level (dBA DNL)	Area within Noise Contour (acres)		
	Calculated Baseline <sup>2</sup>	High Noise Scenario	Increase
>65	14,759	15,261	502
>70	7,613	7,911	298
>75	3,877	4,021	144
>80	2,000	2,079	79
>85	1,005	1,057	52

Notes:

<sup>1</sup> Area (on- and off-airport property) was based off the NOISEMAP-modeled noise contours and used to calculate the amount of land within each noise contour. The amounts shown are cumulative (i.e., the acreage within the >85-dBA DNL contour is also within all the lower noise level contours).

<sup>2</sup> Baseline calculated from existing conditions described in March 2022 EA plus the increase in acres modeled under the High Noise Scenario for Alternative 3.

dBA = A-weighted decibel; DNL = day-night average sound level

As a result of the implementation of the High Noise Scenario, noise levels at representative POIs described in **Section 3.3.2** would increase (**Table 3-28**). At the representative noise sensitive locations modeled, the DNL would increase by an amount ranging from 0 to 1 dBA under the High Noise Scenario. The increased DNL at these POIs and the surrounding areas would be long-term, negligible, and less than significant under the High Noise Scenario for Eglin AFB.

**Table 3-28**  
**Proposed High Noise Scenario Day-Night Average Sound Level at Representative Points of Interest on and near Eglin Air Force Base**

POIs		DNL (dBA)		
ID	Description	Existing Ambient	High Noise Scenario	Increase in DNL
H1	Eglin Hospital	59	60	1
R1	Eglin Housing (Capehart)	68	68	0
R2	Eglin Housing (Ben's Lake)	66	66	0
R3	#1 Housing (Valparaiso)	68	69	1
R4	#2 Housing (Valparaiso)	68	69	1
S1	Eglin Elementary School	66	67	1
S2	Eglin Child Development Center	70	70	0
S3	Lewis Middle School (Valparaiso)	59	59	0
S4	Valparaiso Elementary School	64	65	1
W1	Eglin Chapel 2 – Building 2574	65	65	0
W2	Eglin Chapel 1 - Building 868	63	64	1
W3	First Assembly of God (Valparaiso)	66	67	1
W4	New Hope Baptist (Valparaiso)	66	67	1
W5	Sovereign Grace Church (Valparaiso)	63	64	1
W6	First Baptist Church (Valparaiso)	62	63	1
W7	Unitarian Church (Valparaiso)	55	55	0
W8	Niceville Community Church	67	68	1

Note: POI levels based on the NOISEMAP-modeled noise exposures. H=Hospital; R=Residential; S=School; W=Worship; dBA = A-weighted decibel; DNL = day-night average sound level; POI = point of interest



### **Medium Noise Scenario**

The operation numbers, day/night distribution, and runway utilization for the Medium Noise Scenario would be identical to those of the High Noise Scenario.

The resultant 65- to 85-dBA DNL contours in 5-dBA increments for the daily flight events at Eglin AFB under the proposed Medium Noise Scenario are depicted on **Figure 3-15** along with the representative POIs.

The noise levels generated by Medium Noise Scenario contract ADAIR aircraft would increase the overall noise environment in the vicinity of Eglin AFB. A comparison of the DNL noise contours of the Medium Noise Scenario and the existing conditions is depicted on **Figure 3-16**, and the change in area within noise contours as a result of the Medium Noise Scenario is listed in **Table 3-29**.

As a result of the implementation of the Medium Noise Scenario, noise levels at representative POIs described in the March 2022 EA would increase (**Table 3-30**). At the representative noise sensitive locations modeled, the DNL would increase by an amount ranging from 0 to 1 dBA under the Medium Noise Scenario. The increased DNL at these POIs and the surrounding areas would be long-term, negligible, and less than significant under the Medium Noise Scenario for Eglin AFB.

### **Low Noise Scenario**

The operation numbers, day/night distribution, and runway utilization for the Low Noise Scenario would be identical to those of the High Noise Scenario.

The resultant 65- to 85-dBA DNL contours in 5-dBA increments for the daily flight events at Eglin AFB under the proposed Low Noise Scenario are depicted on **Figure 3-17** along with the representative POIs.

The noise levels generated by Low Noise Scenario contract ADAIR aircraft would increase the overall noise environment in the vicinity of Eglin AFB. A comparison of the DNL noise contours of the Low Noise Scenario and the existing conditions is depicted on **Figure 3-18**, and the change in area within noise contours as a result of the Low Noise Scenario is listed in **Table 3-31**.

As a result of the implementation of the Low Noise Scenario, noise levels at representative POIs described in the March 2022 EA would increase (**Table 3-32**). At the representative noise sensitive locations modeled, the DNL would increase by an amount ranging from 0 to 1 dBA under the Low Noise Scenario. The increased DNL at these POIs and the surrounding areas would be long-term, negligible, and less than significant under the Low Noise Scenario for Eglin AFB.

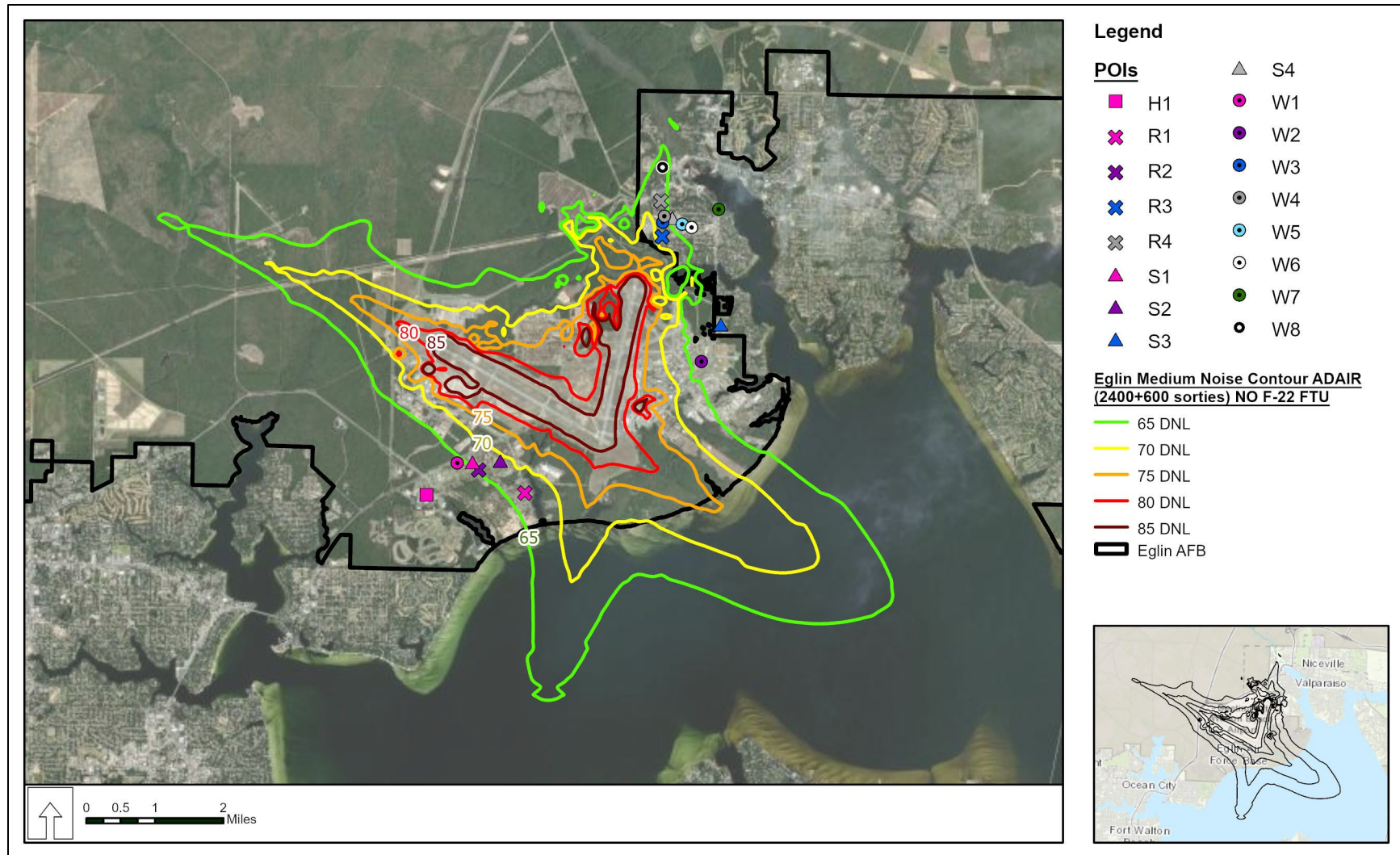


Figure 3-15. Medium Noise Scenario Day-Night Average Sound Level Contours at Eglin Air Force Base.

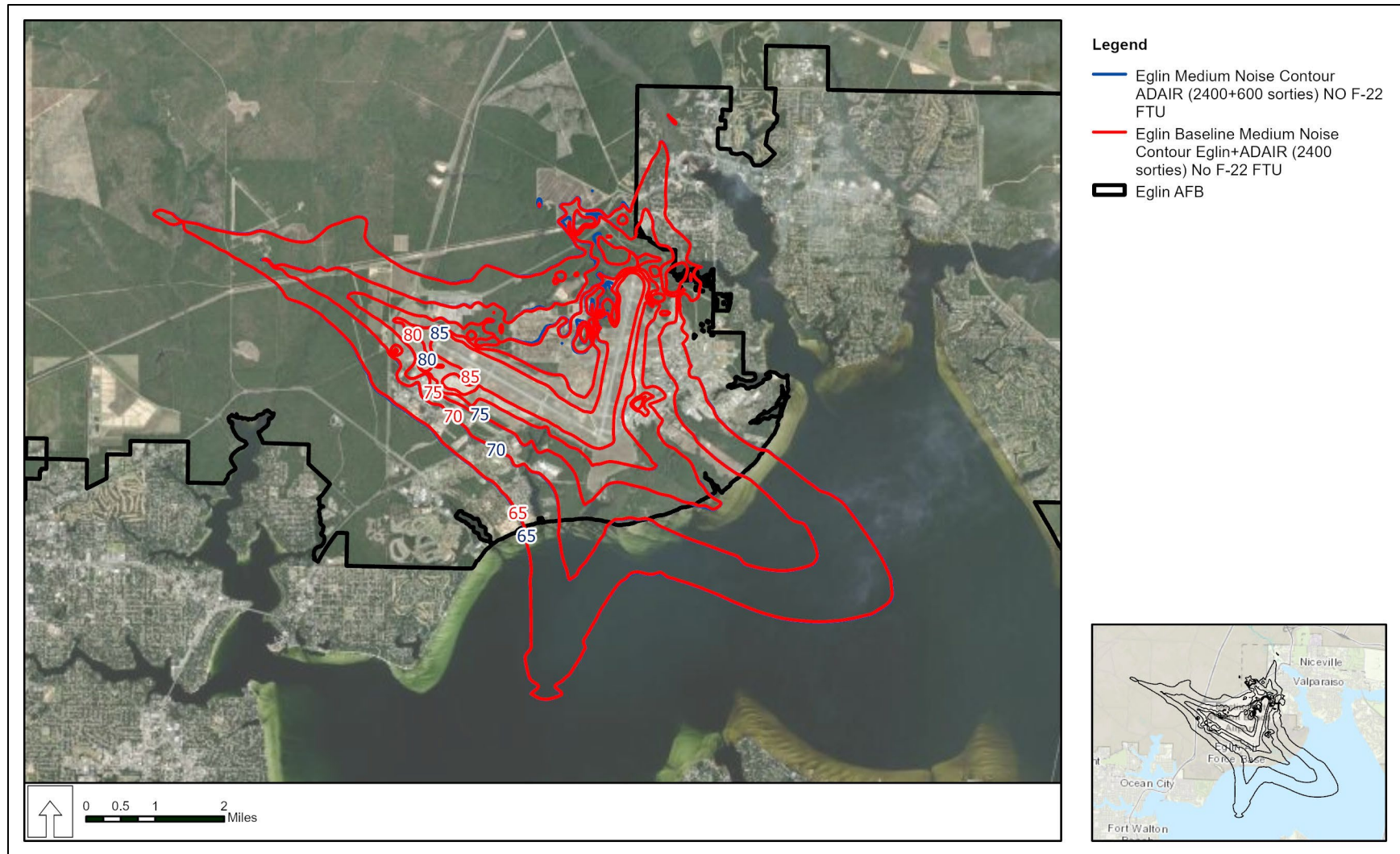


Figure 3-16. Comparison of Medium Noise Scenario and Existing Day-Night Average Sound Level Contours at Eglin Air Force Base.

**Table 3-29**  
**Proposed Medium Noise Scenario Day-Night Average Sound Level Area Affected on and Surrounding Eglin Air Force Base<sup>1</sup>**

Noise Level (dBA DNL)	Area within Noise Contour (acres)		
	Calculated Baseline <sup>2</sup>	Medium Noise Scenario	Increase
>65	13,062	13,172	110
>70	6,807	6,870	63
>75	3,540	3,594	54
>80	1,819	1,888	69
>85	951	973	22

Notes:

<sup>1</sup> Area (on- and off-airport property) was based off the NOISEMAP-modeled noise contours and used to calculate the amount of land within each noise contour. The amounts shown are cumulative (i.e., the acreage within the >85-dBA DNL contour is also within all the lower noise level contours).

<sup>2</sup> Baseline calculated from existing conditions described in March 2022 EA plus the increase in acres modeled under the Medium Noise Scenario for Alternative 3.

dBA = A-weighted decibel; DNL = day-night average sound level

**Table 3-30**  
**Proposed Medium Noise Scenario Day-Night Average Sound Level at Representative Points of Interest on and near Eglin Air Force Base**

POIs		DNL (dBA)		
ID	Description	Existing Ambient	Medium Noise Scenario	Increase in DNL
H1	Eglin Hospital	59	59	0
R1	Eglin Housing (Capehart)	67	67	0
R2	Eglin Housing (Ben's Lake)	65	65	0
R3	#1 Housing (Valparaiso)	68	68	0
R4	#2 Housing (Valparaiso)	67	67	0
S1	Eglin Elementary School	66	66	0
S2	Eglin Child Development Center	69	69	0
S3	Lewis Middle School (Valparaiso)	59	59	0
S4	Valparaiso Elementary School	64	64	0
W1	Eglin Chapel 2 - Building 2574	65	65	0
W2	Eglin Chapel 1 – Building 868	63	63	0
W3	First Assembly of God (Valparaiso)	66	66	0
W4	New Hope Baptist (Valparaiso)	65	66	1
W5	Sovereign Grace Church (Valparaiso)	63	63	0
W6	First Baptist Church (Valparaiso)	62	62	0
W7	Unitarian Church (Valparaiso)	54	54	0
W8	Niceville Community Church	66	67	1

Note: POI levels based on the NOISEMAP-modeled noise exposures. H=Hospital; R=Residential; S=School; W=Worship; dBA = A-weighted decibel; DNL = day-night average sound level; POI = point of interest



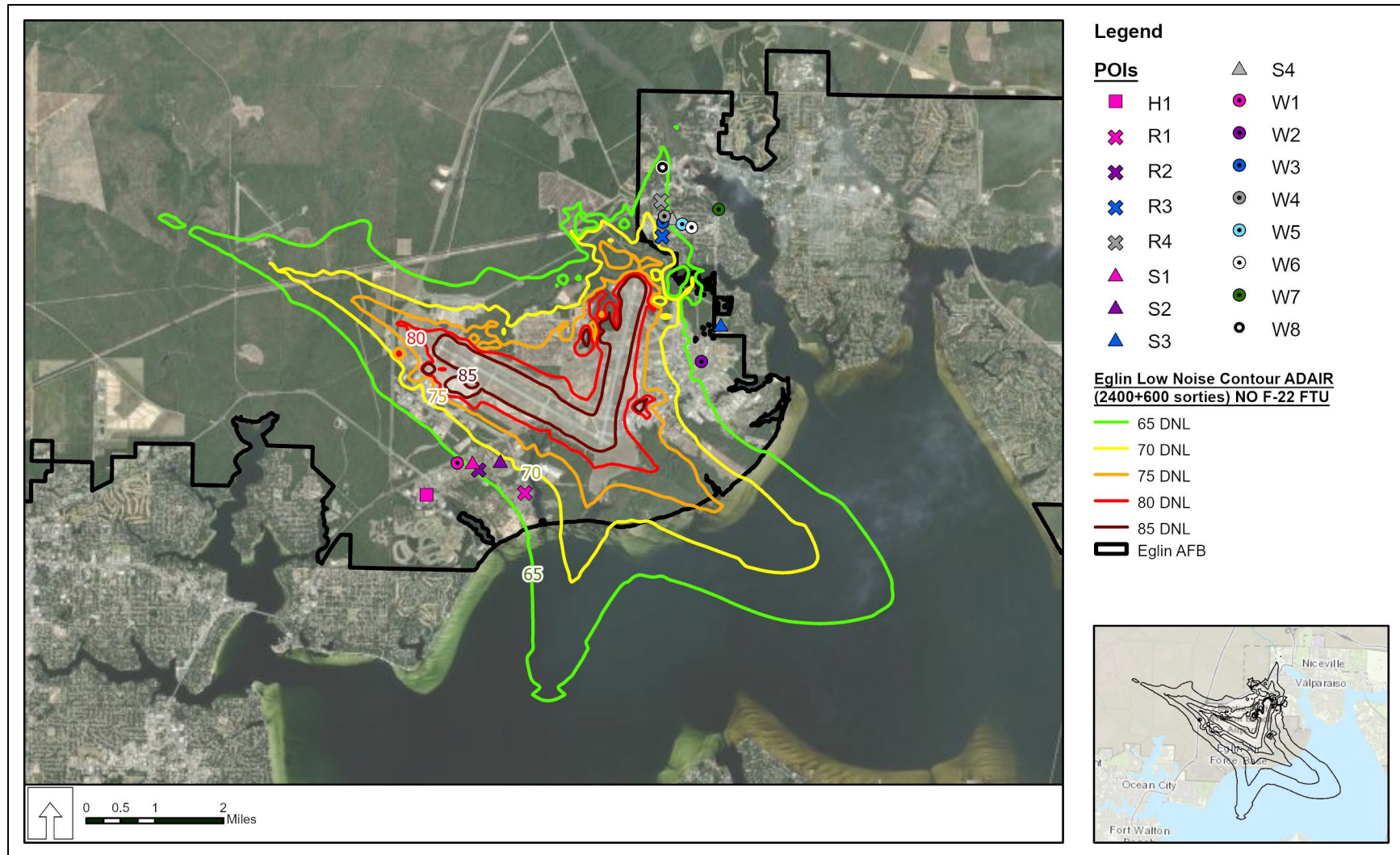


Figure 3-17. Low Noise Scenario Day-Night Average Sound Level Contours at Eglin Air Force Base.

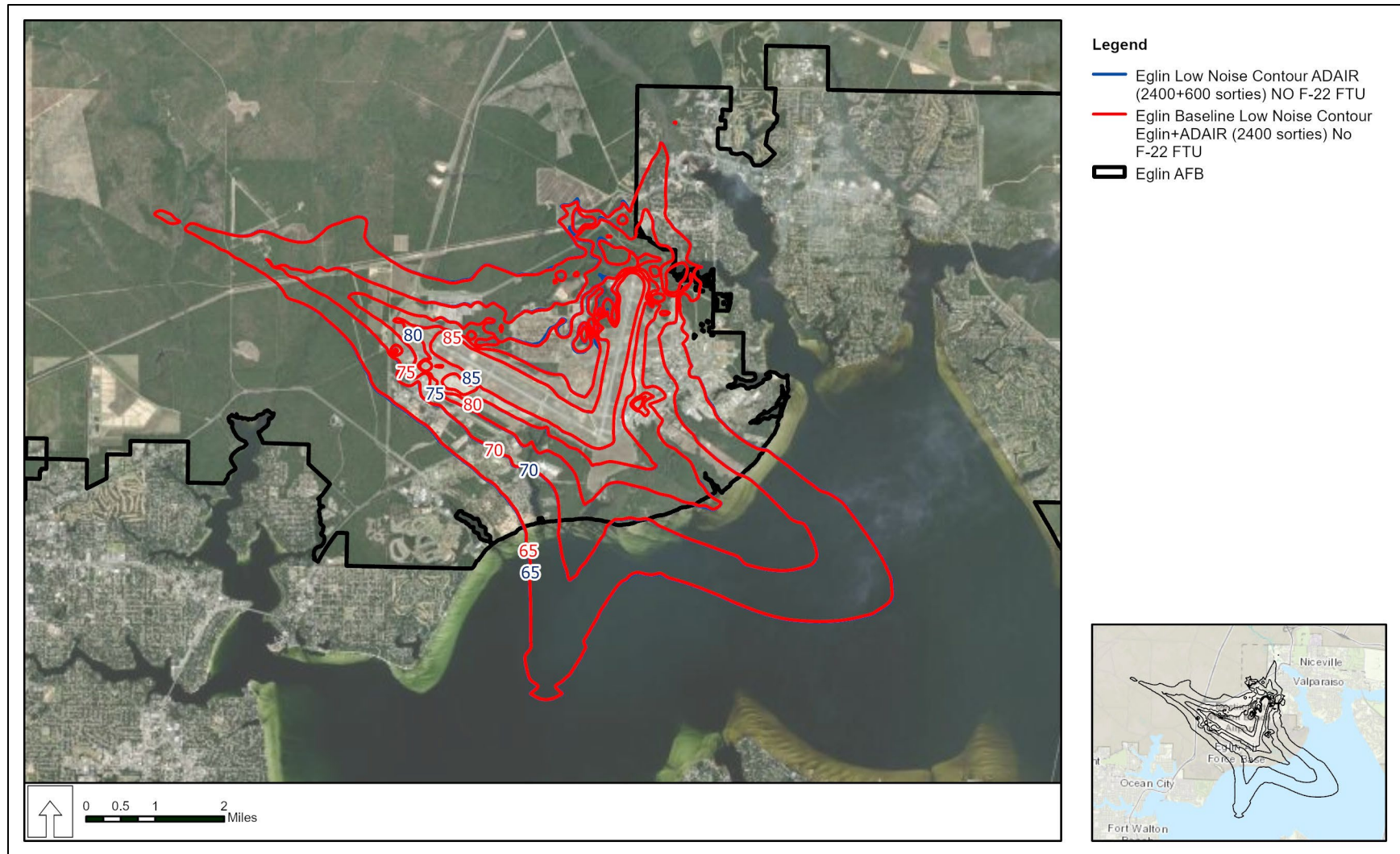


Figure 3-18. Comparison of Low Noise Scenario and Existing Day-Night Average Sound Level Contours at Eglin Air Force Base.

**Table 3-31**  
**Proposed Low Noise Scenario Day-Night Average Sound Level Area Affected on and Surrounding Eglin Air Force Base<sup>1</sup>**

Noise Level (dBA DNL)	Area within Noise Contour (acres)		
	Calculated Baseline <sup>2</sup>	Low Noise Scenario	Increase
>65	13,065	13,180	115
>70	6,795	6,853	58
>75	3,524	3,572	48
>80	1,782	1,845	63
>85	943	975	32

Notes:

<sup>1</sup> Area (on- and off-airport property) was based off the NOISEMAP-modeled noise contours and used to calculate the amount of land within each noise contour. The amounts shown are cumulative (i.e., the acreage within the >85-dBA DNL contour is also within all the lower noise level contours).

<sup>2</sup> Baseline calculated from existing conditions described in March 2022 EA plus the increase in acres modeled under the Low Noise Scenario for Alternative 3.

dBA = A-weighted decibel; DNL = day-night average sound level

**Table 3-32**  
**Proposed Low Noise Scenario Day-Night Average Sound Level at Representative Points of Interest on and near Eglin Air Force Base**

POIs		DNL (dBA)		
ID	Description	Existing	Low Noise Scenario	Increase in DNL
H1	Eglin Hospital	58	59	1
R1	Eglin Housing (Capehart)	67	67	0
R2	Eglin Housing (Ben's Lake)	65	66	1
R3	#1 Housing (Valparaiso)	68	68	0
R4	#2 Housing (Valparaiso)	67	67	0
S1	Eglin Elementary School	66	66	0
S2	Eglin Child Development Center	69	69	0
S3	Lewis Middle School (Valparaiso)	59	59	0
S4	Valparaiso Elementary School	64	64	0
W1	Eglin Chapel 2 – Building 2574	65	65	0
W2	Eglin Chapel 1 – Building 868	63	63	0
W3	First Assembly of God (Valparaiso)	66	66	0
W4	New Hope Baptist (Valparaiso)	65	66	1
W5	Sovereign Grace Church (Valparaiso)	63	63	0
W6	First Baptist Church (Valparaiso)	62	62	0
W7	Unitarian Church (Valparaiso)	54	54	0
W8	Niceville Community Church	66	66	0

Note: POI levels based on the combined AEDT- and NOISEMAP-modeled noise exposures. H=Hospital; R=Residential; S=School; W=Worship; dBA = A-weighted decibel; DNL = day-night average sound level; POI = point of interest

### 3.3.6.2 Special Use Airspace

Under the High, Medium, or Low Noise Scenarios of Alternative 3, contract ADAIR would perform an estimated 3,000 annual operations in the SUA proposed for use. Contract ADAIR would only operate in the same airspace already used by Eglin AFB aircraft. A summary of annual airspace operations for Eglin AFB and contract ADAIR aircraft is presented in **Table 3-33**.

**Table 3-33  
Proposed Annual Airspace Operations Summary by Eglin Air Force Base and Contract ADAIR  
Aircraft (All Scenarios)**

Airspace	Aircraft				Projected Total Operations
	F-35A		Contract ADAIR		
	Day	Night	Day	Night	
Warning Area W-151	2,385	322	2,050	278	5,035
Gulf Regional Airspace Strategic Initiative Air Traffic Control Assigned Airspace	596	81	512	70	1,259
Warning Area W-470	95	13	78	12	198
Total Operations	3,076	416	2,640	360	6,492

Noise analysis of the High, Medium, and Low Noise Scenarios was conducted to analyze changes to the noise levels in the proposed SUA listed in **Table 3-34**. **Table 3-34** shows that under the High, Medium, or Low Noise Scenarios, the noise environments, described by  $L_{dnmr}$ , for W-151 and W-470 and the GRASI ATCAA would be nearly identical to the existing airspace noise environments; therefore, there would be no significant impacts under the High, Medium, or Low Noise Scenarios under Alternative 3.

**Table 3-34  
Existing and Proposed Noise Levels in Airspace**

Airspace	Existing ( $L_{dnmr}$ dB)	High Noise Scenario ( $L_{dnmr}$ dB)	Medium Noise Scenario ( $L_{dnmr}$ dB)	Low Noise Scenario ( $L_{dnmr}$ dB)
Warning Area W-151	60	60	60	60
Gulf Regional Airspace Strategic Initiative Air Traffic Control Assigned Airspace	<45	<45	<45	<45
Warning Area W-470	<45	46	46	46

dB = decibel(s);  $L_{dnmr}$  = onset-rate adjusted monthly day-night average sound level

Single event sonic boom levels were estimated, using the PCBoom program, directly undertrack for contract ADAIR supersonic flights in W-151 and W-470 and the GRASI ATCAA (**Table 3-35**). Overpressure and C-weighted sound exposure level for the contract ADAIR supersonic aircraft are shown for comparison with the F-35A at various altitudes and Mach 1.2.



**Table 3-35**  
**Warning Areas W-151 and W-470 and Gulf Regional Airspace Strategic Initiative Air Traffic Control**  
**Assigned Airspace: Sonic Boom Levels Undertrack for Based and Contract ADAIR Aircraft in**  
**Level Flight at Mach 1.2**

Aircraft	Altitude (feet above mean sea level)		
	25,000	35,000	45,000
<b>Mach 1.2</b>			
<b>Overpressure (pound[s] per square foot)</b>			
F-35A	2.3	1.6	1.3
Eurofighter Typhoon	2.2	1.6	1.3
Dassault Mirage	1.8	1.3	1.0
JAS 39 Gripen	1.8	1.3	1.0
<b>CSEL (decibels)</b>			
F-35A	108.7	105.8	103.8
Eurofighter Typhoon	108.4	105.6	103.9
Dassault Mirage	106.6	103.7	101.7
JAS 39 Gripen	106.6	103.7	101.7

Note: C-weighted sound exposure level (CSEL) – sound exposure level with frequency weighting that places more emphasis on low frequencies below 1,000 hertz

The sonic boom levels listed in **Table 3-35** are the loudest levels computed at the center of the footprint for the constant Mach, level flight conditions indicated. Supersonic flights are allowed in W-151 and W-470 and the GRASI ATCAA beyond 15 NM from land and typical usage is between 25,000 and 45,000 ft. The location of these booms would vary with changing flight paths and weather conditions, so it is unlikely that any given location would experience these undertrack levels more than once over multiple events. Overpressure levels, directly under the flight path, estimated for W-151 and W-470 and the GRASI ATCAA would range from 2.3 to 1.0 psf depending on the flight conditions. Public reaction may occur with overpressures above 1 psf, and in rare instances, damage to structures have occurred at overpressures between 2 and 5 psf (NASA, 2017). People located farther away from the supersonic flight paths, who are still within the primary boom carpet, might also be exposed to levels that may be startling or annoying, but the probability of this decreases the farther away they are from the flight path. People located beyond the edge of the boom carpet are not expected to be exposed to sonic boom, although post boom rumbling sounds may be heard. The addition of contract ADAIR aircraft operating at supersonic speeds would mean that the number of sonic booms heard would likely increase; however, potential impacts associated with sonic booms would still be expected to be negligible under Alternative 3.

### 3.3.7 Environmental Consequences – Alternative 4

The High, Medium, and Low Scenario methodology for noise impact analysis of Alternative 4 follows the same methodology as Alternative 1 (**Section 3.3.4**).

#### 3.3.7.1 Northwest Florida Beaches International Airport

##### High Noise Scenario

Implementation of the Proposed Action High Noise Scenario would result in an approximate 1.8 percent increase in the number of operations at ECP. Contract ADAIR would fly 3.5 percent of the estimated 3,000 sorties during environmental night hours from 10:00 pm to 7:00 am local time, when the effects of aircraft noise are accentuated. Contractor night sorties would be flown during the Eglin AFB approved flying window. Runway utilization, flight tracks, and flight track utilization for contract ADAIR aircraft would be similar to the existing aircraft operations at ECP. Proposed annual departure, arrival, and closed pattern

aircraft operations at ECP with the additional contract ADAIR aircraft are listed in **Table 3-36**. Contract ADAIR would also perform static run-up operations, such as pre- and postflight run-ups.

**Table 3-36  
Proposed High Noise Scenario Annual Aircraft Operations Summary at Northwest Florida  
Beaches International Airport**

Aircraft	Departures		Arrivals		Closed Patterns		Total Operations		
	Day	Night	Day	Night	Day	Night	Day	Night	Total
Military	2,843	58	2,843	58	3,791	77	9,477	193	9,670
Air Carrier	5,938	2	5,938	2	0	0	11,876	4	11,880
Air Taxi	2,593	0	2,593	0	0	0	5,186	0	5,186
General Aviation (Local)	2,664	55	2,664	55	5,329	109	10,657	219	10,876
General Aviation (Itinerant)	12,957	264	12,957	263	0	0	25,914	527	26,441
Contract ADAIR	2,936	64	2,851	149	300	0	6,088	213	6,300
<b>Grand Total</b>	<b>29,931</b>	<b>443</b>	<b>29,846</b>	<b>527</b>	<b>9,420</b>	<b>186</b>	<b>69,198</b>	<b>1,156</b>	<b>70,353</b>

The resultant 65- to 85-dBA DNL contours in 5-dBA increments for the daily flight events at ECP under the proposed High Noise Scenario are depicted on **Figure 3-19** along with the representative POIs.

The noise levels generated by High Noise Scenario contract ADAIR aircraft would increase the overall noise environment in the vicinity of ECP. A comparison of the DNL noise contours of the High Noise Scenario and the existing conditions is depicted on **Figure 3-20**, and the change in area within noise contours as a result of the High Noise Scenario is listed in **Table 3-37**.

As a result of the implementation of the High Noise Scenario, noise levels at most of the representative POIs described in the March 2022 EA would not increase (**Table 3-38**) except at one residential location R2 (West Highway 388 and South Burnt Mill Creek Road) which would have an increase of 3 dBA. Five of the POIs examined would not be expected to experience a DNL increase, resulting in a long-term, negligible, and less than significant impact under the High Noise Scenario for ECP. Residential location R2 would experience a DNL increase of 3 dBA and the resulting DNL would be just above 65 dBA (66 dBA) under the High Noise Scenario for ECP. Therefore, the increased DNL at this one POI, and the nearby surrounding areas, would have long-term and minor, to moderate impacts.

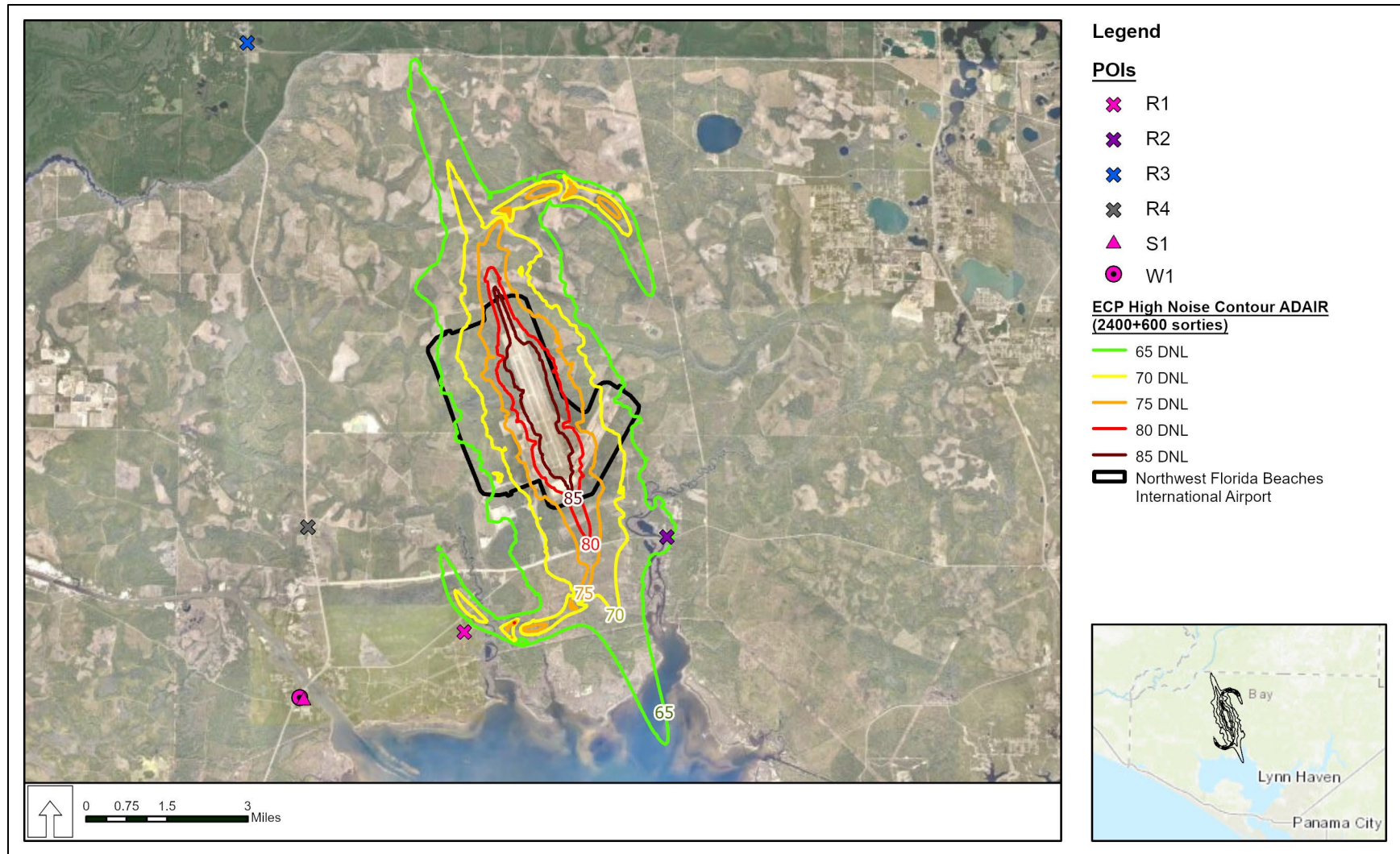


Figure 3-19. High Noise Scenario Day-Night Average Sound Level Contours at Northwest Florida Beaches International Airport.



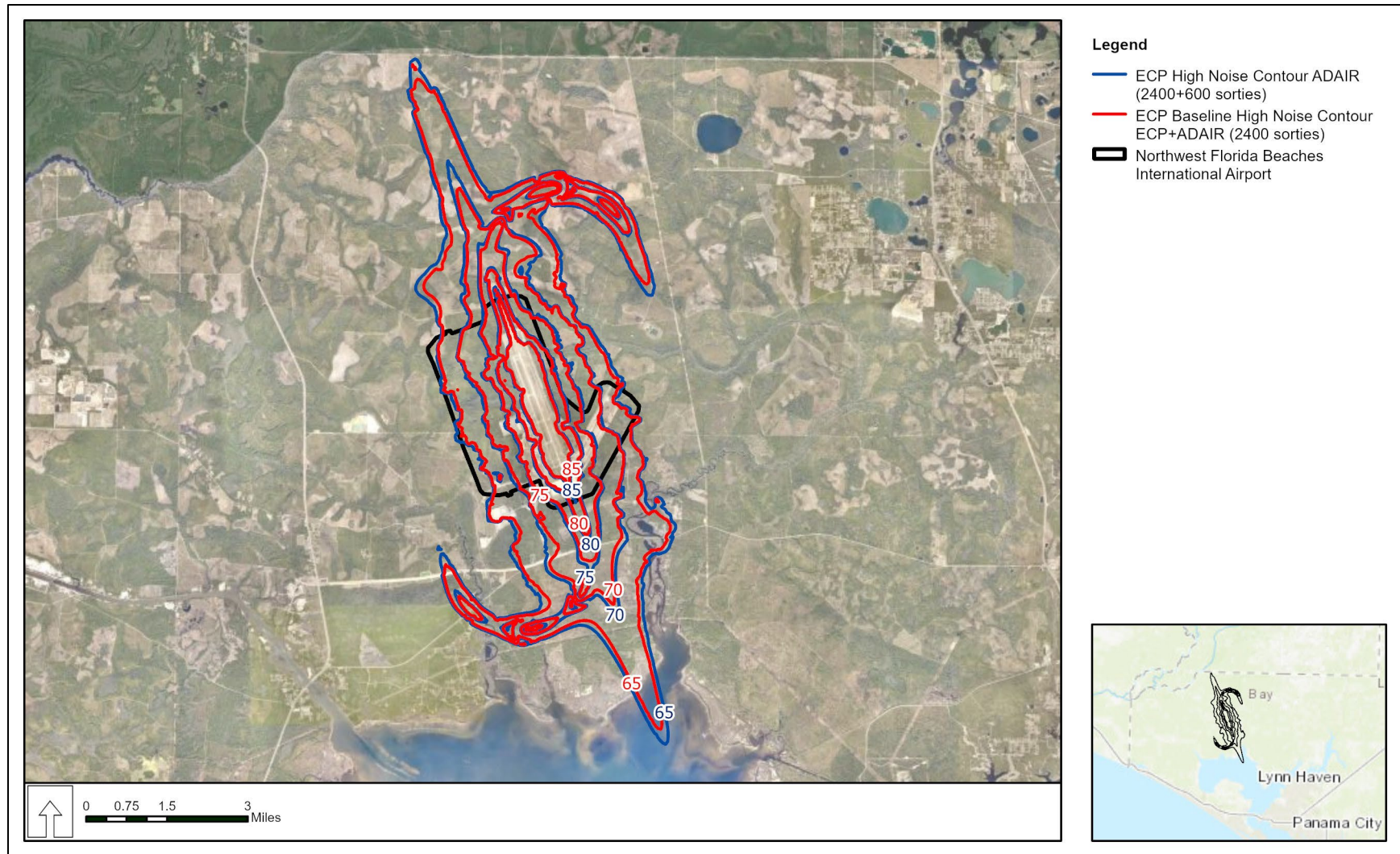


Figure 3-20. Comparison of High Noise Scenario and Existing Day-Night Average Sound Level Contours at Northwest Florida Beaches International Airport.



**Table 3-37**  
**Proposed High Noise Scenario Day-Night Average Sound Level Area Affected on and Surrounding Northwest Florida Beaches International Airport<sup>1</sup>**

Noise Level (dBA DNL)	Area within Noise Contour (acres)		
	Calculated Baseline <sup>2</sup>	High Noise Scenario	Increase
>65	11,436	12,730	1,294
>70	5,802	6,449	647
>75	2,779	3,118	339
>80	1,367	1,512	145
>85	640	727	87

Notes:

<sup>1</sup> Area (on- and off-airport property) was based off the NOISEMAP-modeled noise contours and used to calculate the amount of land within each noise contour. The amounts shown are cumulative (i.e., the acreage within the >85-dBA DNL contour is also within all the lower noise level contours).

<sup>2</sup> Baseline calculated from existing conditions described in March 2022 EA plus the increase in acres modeled under the High Noise Scenario for Alternative 4.

dBA = A-weighted decibel; DNL = day-night average sound level

**Table 3-38**  
**Proposed High Noise Scenario Day-Night Average Sound Level at Representative Points of Interest on and near Northwest Florida Beaches International Airport**

POIs		DNL (dBA)		
ID	Description	Existing	High Noise Scenario	Increase in DNL
R1	River Bluffs Trail and Preservation Drive	61	61	0
R2	West Highway 388 and South Burnt Mill Creek Road	63	66	3
R3	Dog Track Road and Captain Fritz Road	<45	<45	0
R4	Highway 79 and Treadway Street	<45	<45	0
S1	West Bay Elementary School	<45	<45	0
W1	West Bay Advent Church	<45	<45	0

Note: POI levels based on the combined AEDT- and NOISEMAP-modeled noise exposures.

R=Residential; S=School; W=Worship; dBA = A-weighted decibel; DNL = day-night average sound level; POI = point of interest

### Medium Noise Scenario

The operation numbers, day/night distribution, and runway utilization for the Medium Noise Scenario would be identical to those of the High Noise Scenario.

The resultant 65- to 85-dBA DNL contours in 5-dBA increments for the daily flight events at ECP under the proposed Medium Noise Scenario are depicted on **Figure 3-21** along with the representative POIs.

The noise levels generated by Medium Noise Scenario contract ADAIR aircraft would increase the overall noise environment in the vicinity of ECP. A comparison of the DNL noise contours of the Medium Noise Scenario and the existing conditions is depicted on **Figure 3-22**, and the change in area within noise contours as a result of the Medium Noise Scenario is listed in **Table 3-39**.

At the representative noise sensitive locations modeled (**Table 3-40**), the DNL would increase by 0 to 2 dBA under the Medium Noise Scenario. Five of the six POIs examined would not be expected to experience a DNL increase, resulting in a long-term, negligible impact under the Medium Noise Scenario for ECP. One of the POIs examined (R2) would experience a DNL increase of 2 dBA, resulting in a long-term, minor, and less than significant impact under the Medium Noise Scenario for ECP.

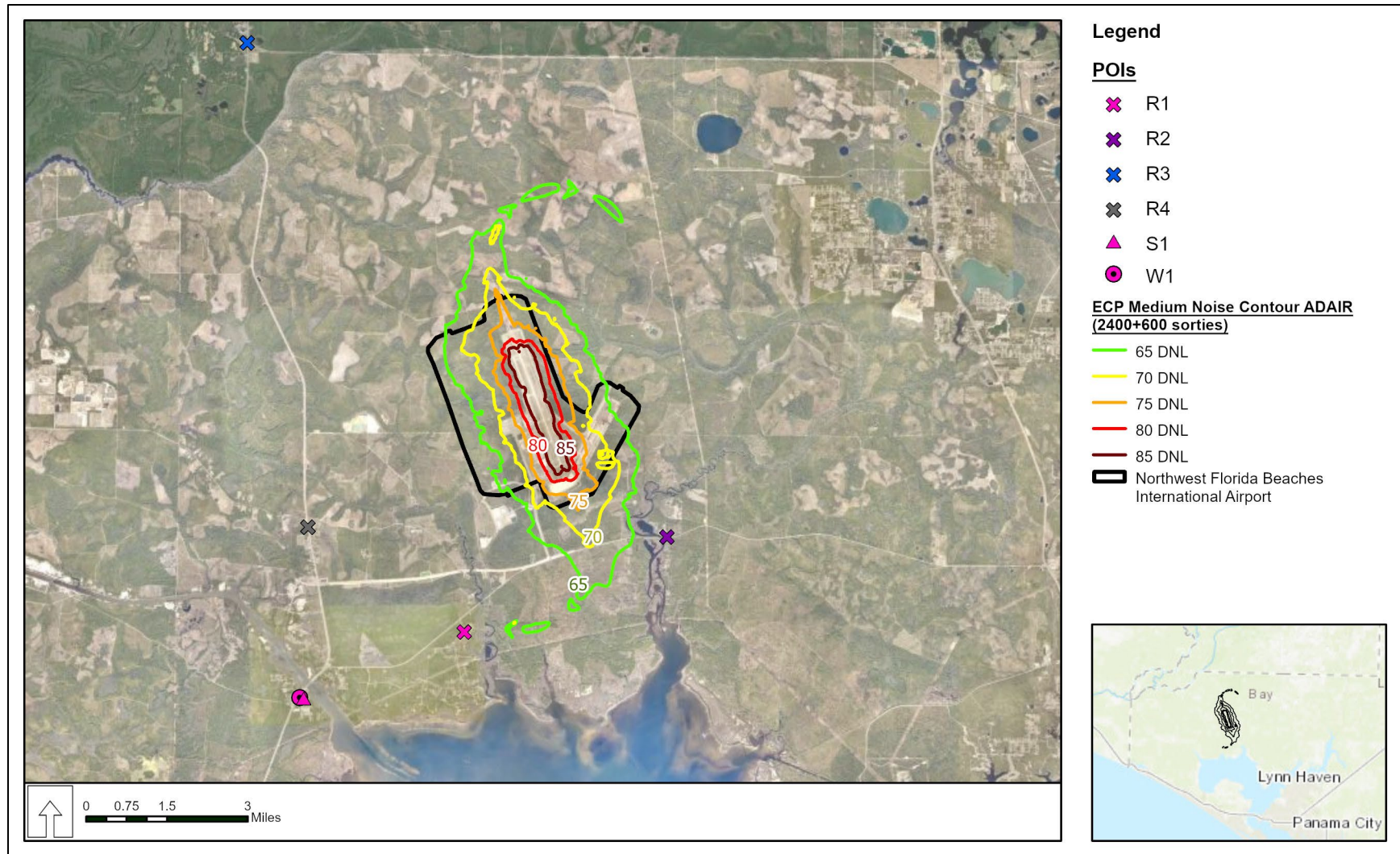


Figure 3-21. Medium Noise Scenario Day-Night Average Sound Level Contours at Northwest Florida Beaches International Airport.



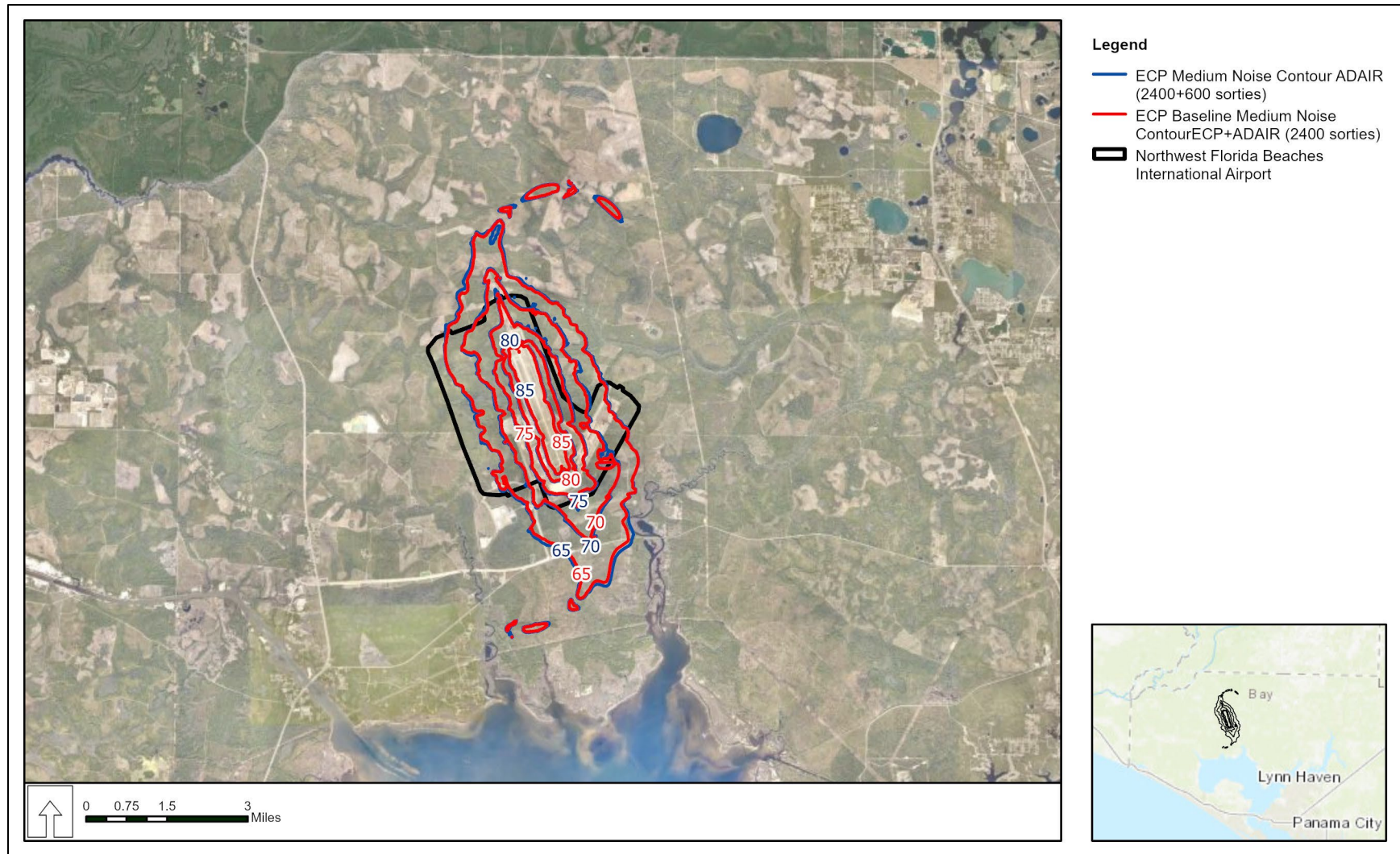


Figure 3-22. Comparison of Medium Noise Scenario and Existing Day-Night Average Sound Level Contours at Northwest Florida Beaches International Airport.

**Table 3-39**  
**Proposed Medium Noise Scenario Day-Night Average Sound Level Area Affected on and Surrounding Northwest Florida Beaches International Airport**

Noise Level (dBA DNL)	Area within Noise Contour (acres)		
	Existing	Medium Noise Scenario	Increase
>65	5,855	6,165	310
>70	3,032	3,239	207
>75	1,519	1,602	83
>80	774	822	48
>85	405	430	25

Notes: Area (on- and off-airport property) was based off the combined AEDT- and NOISEMAP-modeled noise contours and used to calculate the amount of land within each noise contour. The amounts shown are cumulative (i.e., the acreage within the >85-dBA DNL contour is also within all the lower noise level contours).  
dBA = A-weighted decibel; DNL = day-night average sound level

### Low Noise Scenario

The operation numbers, day/night distribution, and runway utilization for the Low Noise Scenario would be identical to those of the High Noise Scenario.

The resultant 65- to 85-dBA DNL contours in 5-dBA increments for the daily flight events at ECP under the proposed Low Noise Scenario are depicted on **Figure 3-23** along with the representative POIs.

The noise levels generated by Low Noise Scenario contract ADAIR aircraft would increase the overall noise environment in the vicinity of ECP. A comparison of the DNL noise contours of the Low Noise Scenario and the existing conditions is depicted on **Figure 3-24**, and the change in area within noise contours as a result of the Low Noise Scenario is listed in **Table 3-41**.

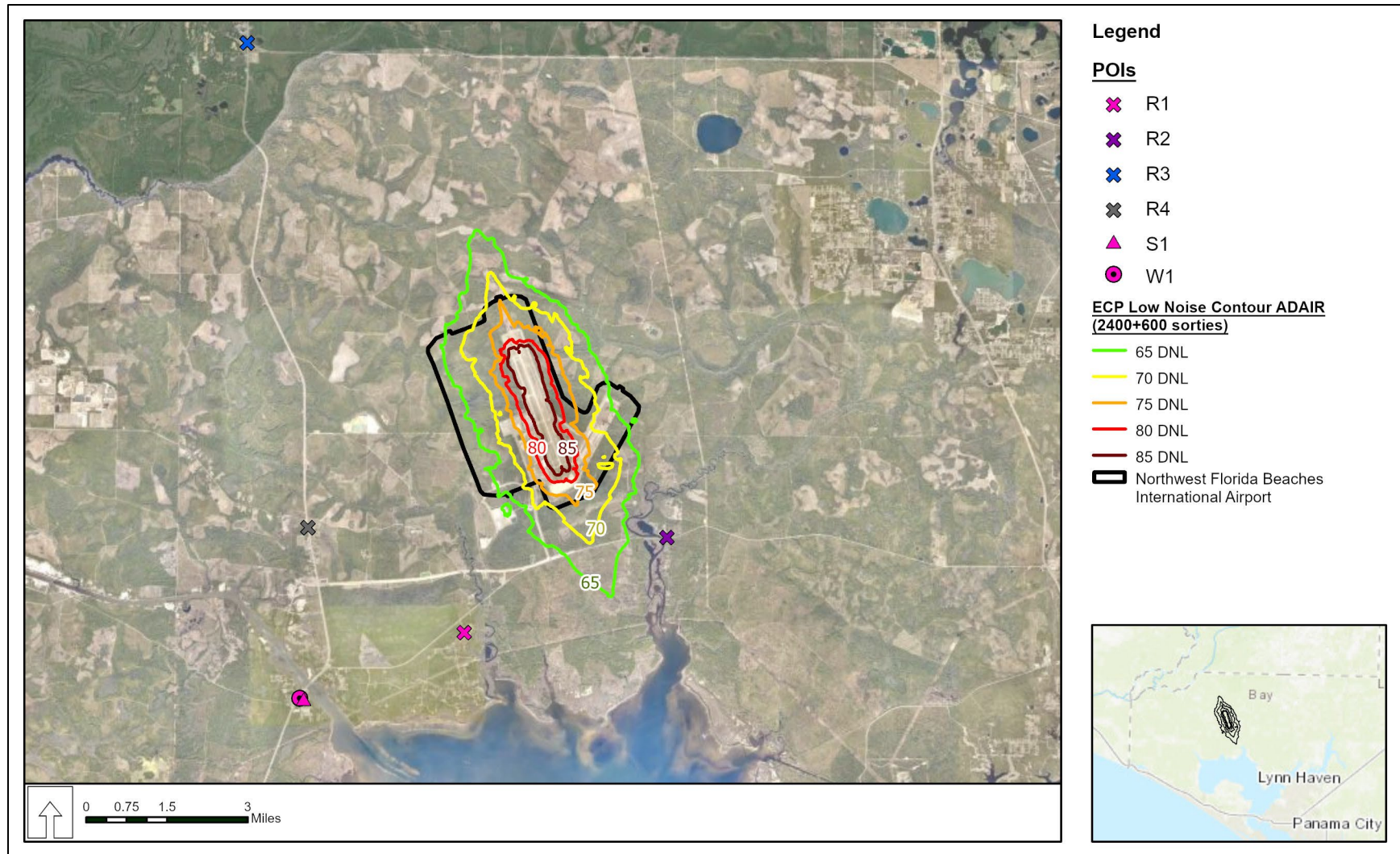


Figure 3-23. Low Noise Scenario Day-Night Average Sound Level Contours at Northwest Florida Beaches International Airport.



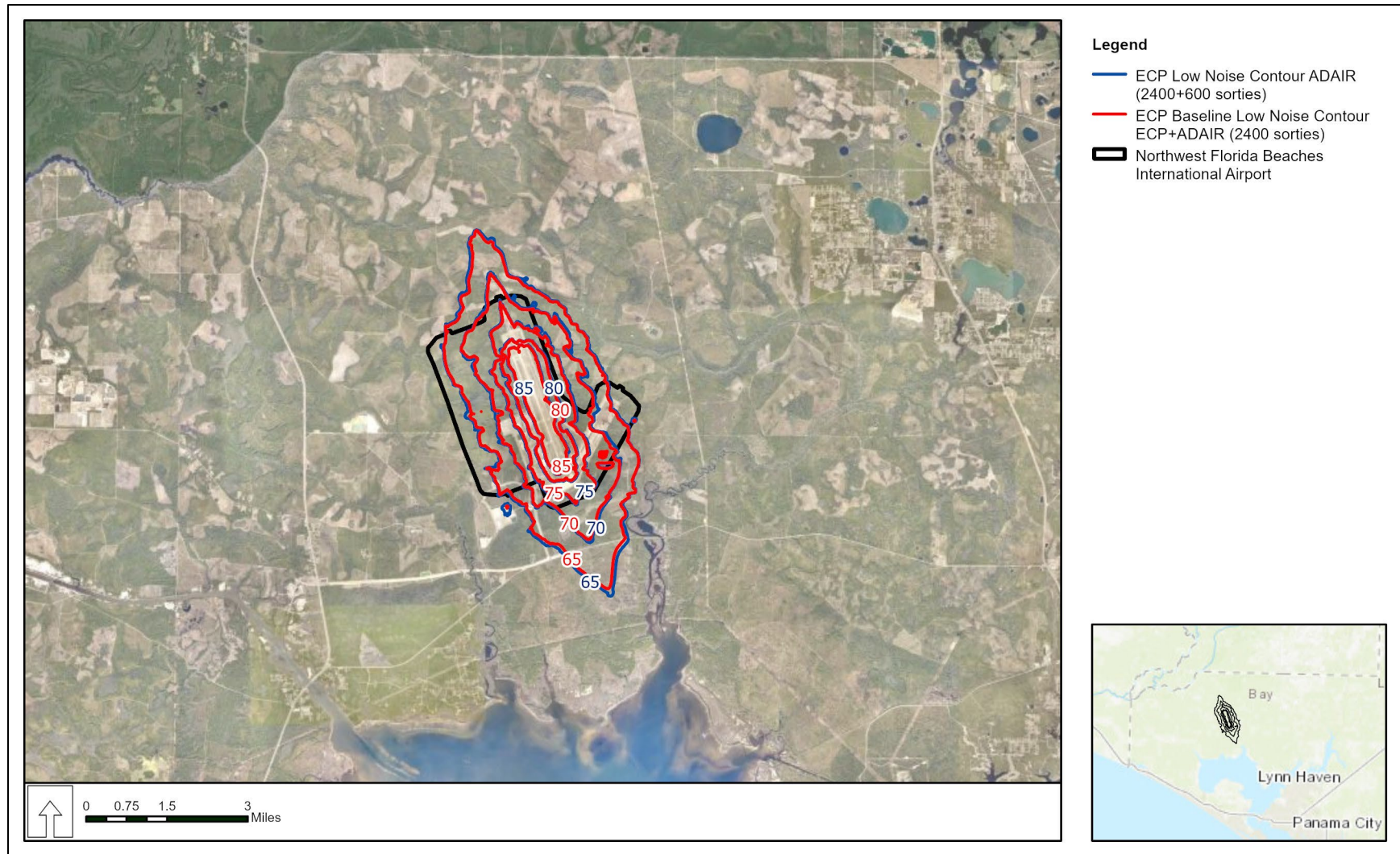


Figure 3-24. Comparison of Low Noise Scenario and Existing Day-Night Average Sound Level Contours at Northwest Florida Beaches International Airport.

**Table 3-40**  
**Proposed Low Noise Scenario Day-Night Average Sound Level Area Affected on and Surrounding Northwest Florida Beaches International Airport**

Noise Level (dBA DNL)	Area within Noise Contour (acres)		
	Existing	Low Noise Scenario	Increase
>65	5,834	6,114	280
>70	3,245	3,448	203
>75	1,610	1,707	97
>80	850	908	58
>85	454	489	35

Notes: Area (on- and off-airport property) was based off the combined AEDT- and NOISEMAP-modeled noise contours and used to calculate the amount of land within each noise contour. The amounts shown are cumulative (i.e., the acreage within the >85-dBA DNL contour is also within all the lower noise level contours).  
dBA = A-weighted decibel; DNL = day-night average sound level

As a result of the implementation of the Low Noise Scenario, noise levels at one of the representative POIs described in the March 2022 EA would increase (**Table 3-42**). At the representative noise sensitive locations modeled, the DNL would increase by 0 to 2 dBA under the Low Noise Scenario. Five of the six POIs examined would not be expected to experience a DNL increase, resulting in a long-term, negligible impact under the Low Noise Scenario for ECP. One of the POIs examined (R2) would experience a DNL increase of 2 dBA, resulting in a long-term, minor, and less than significant impact under the Low Noise Scenario for ECP.

**Table 3-41**  
**Proposed Low Noise Scenario Day-Night Average Sound Level at Representative Points of Interest on and near Northwest Florida Beaches International Airport**

POIs		DNL (dBA)		
ID	Description	Existing	Low Noise Scenario	Increase in DNL
R1	River Bluffs Trail and Preservation Drive	51	51	0
R2	West Highway 388 and South Burnt Mill Creek Road	59	61	2
R3	Dog Track Road and Captain Fritz Road	<45	<45	0
R4	Highway 79 and Treadway Street	<45	<45	0
S1	West Bay Elementary School	<45	<45	0
W1	West Bay Advent Church	<45	<45	0

Note: POI levels based on the combined AEDT- and NOISEMAP-modeled noise exposures.  
R=Residential; S=School; W=Worship; dBA = A-weighted decibel; DNL = day-night average sound level; POI = point of interest

### 3.3.7.2 Special Use Airspace

Under Alternative 4, subsonic and supersonic noise within airspace would be identical to Alternative 3 (**Section 3.3.6.2**).

### 3.3.8 No Action Alternative

No Action is contract ADAIR providing 2,400 sorties at Eglin AFB and in the SUA with the departure of the F-22 FTU mission or at ECP and in the SUA as previously analyzed in the March 2022 EA. Under the No Action Alternative, there would be no change to the noise environment.



### 3.3.9 *Reasonably Foreseeable Future Actions and Other Environmental Considerations*

The Proposed Action Alternatives would result in a potential long-term increase to the noise environment (POIs and an increase in noise in the areas surrounding the airport) in the vicinity of Eglin AFB or ECP. The addition of contract ADAIR aircraft and future proposed actions could increase the number of sonic booms in the SUA; however, this increase is expected to be negligible in the SUA compared to what currently exists; therefore, no effect on noise is expected in the SUA.

## 3.4 SAFETY

### 3.4.1 *Existing Conditions – Eglin Air Force Base*

#### 3.4.1.1 Occupational Safety

The definition of the resource, emergency response, safety zones, and arresting gear capability and existing conditions at Eglin AFB and ECP were described in the March 2022 EA and remain unchanged.

#### 3.4.1.2 Existing Conditions – Eglin Air Force Base

Occupational safety, emergency response, safety zones, arresting gear capabilities, explosive safety, flight safety, and bird/wildlife airstrike hazard (BASH) are discussed in the March 2022 EA and the *Special EA for Emergency Beddown of the F-22 Formal Training Unit and Associated T-38 Aircraft from Tyndall AFB to Eglin AFB, Florida* (Air Force, 2019) and remain unchanged.

#### 3.4.1.3 Special Use Airspace

A summary of existing annual airspace operations by Eglin AFB is presented in the March 2022 EA and includes 5,892 (5,188 daytime and 704 nighttime) operations in W-151 and W-470 and the GRASI ATCAA, with 78 percent of these operations in W-151. A summary of existing airspace operations for the F-22 FTU is presented the *Special EA for Emergency Beddown of the F-22 Formal Training Unit and Associated T-38 Aircraft from Tyndall AFB to Eglin AFB, Florida* (Air Force, 2019).

### 3.4.2 *Existing Conditions – Northwest Florida Beaches International Airport*

Occupational safety, emergency response, safety zones, arresting gear capabilities, explosive safety, flight safety, and BASH for ECP are discussed in the March 2022 EA and remain unchanged.

### 3.4.3 *Existing Conditions – Special Use Airspace*

Flight safety is discussed in the March 2022 EA and the *Special EA for Emergency Beddown of the F-22 Formal Training Unit and Associated T-38 Aircraft from Tyndall AFB to Eglin AFB, Florida* (Air Force, 2019) and remain unchanged. ADAIR sorties from ECP would support the flying training operations of the 96 TW, 33 FW, and 325 FW at Eglin AFB in the SUA used by these Eglin-based units, including W-151 and W-470 and the GRASI ATCAA, and as described in **Section 3.4.1**.

### 3.4.4 *Environmental Consequences Evaluation Criteria*

Impacts from implementation of the Proposed Action are assessed according to the potential to increase or decrease safety risks to personnel, the public, property, or the environment. Adverse impacts on safety might include implementing contractor flight procedures that result in greater safety risk or constructing new buildings within established quantity-distance (Q-D) safety arcs. For the purposes of this EA, an impact is considered significant for Alternatives 1, 2, and 3 if the proposed safety measures are not consistent with Air Force Occupational Safety and Health (AFOSH) and Occupational Safety and Health Administration (OSHA) standards resulting in unacceptable safety risks. Likewise, an impact is considered significant for Alternative 4 if the proposed safety measures are not consistent with Federal Aviation Administration (FAA),

National Transportation Safety Bureau, OSHA, or other applicable standards for civil airports resulting in unacceptable safety risks as described below and in the March 2022 EA.

Evaluation criteria and safety procedures and guidance are summarized in the March 2022 EA and safety concerns associated with ground, explosive, and flight activities are considered in this section.

Impacts on safety are negligible and long-term. Details of the potential safety changes under Alternatives 1, 2, 3, and 4 are described herein.

### **3.4.5 *Environmental Consequences – Alternative 1: Contract ADAIR with F-22 FTU (Eglin)***

#### **3.4.5.1 Eglin Air Force Base**

No significant changes to occupational safety, explosives safety, or flight safety would be expected under Alternative 1.

#### **3.4.5.2 Occupational Safety**

Under Alternative 1, F-22 FTU aircraft maintenance and testing would occur on the aircraft parking ramp or in the hangar and would be consistent with current aircraft maintenance activities on Eglin AFB. No unique maintenance activities would require modification to existing applicable AFOSH and OSHA requirements.

#### **Emergency Response**

For emergency response, the F-22 FTU would follow Air Force procedures at Eglin AFB for emergency responders and Crash Damaged or Disabled Aircraft Recovery (CDDAR) as described in previous analysis. No significant impacts on emergency response would be anticipated to occur under Alternative 1, provided the F-22 FTU and contract ADAIR would continue to follow all applicable AFOSH and OSHA requirements.

#### **Safety Zones**

Under Alternative 1, safety zones around the airfield would not change.

#### **Arresting Gear Capacity**

There would be no need to change or modify the existing arresting gear. There would be no impacts on arresting gear capability for the implementation of the Alternative 1. No significant impacts on occupational safety are anticipated to occur under Alternative 1 provided the F-22 FTU and contract ADAIR would continue to follow all applicable AFOSH and OSHA requirements.

#### **3.4.5.3 Explosive Safety**

All explosive safety procedures, related to daily training operations with the maintenance and delivery of defensive countermeasure chaff and flares would be followed under Alternative 1. There would be no modifications to Eglin's explosive safety procedures, but because Alternative 1 would temporarily result in a 39 percent increase in airfield sorties, the potential for minor temporary impacts on explosive safety would be expected.

#### **3.4.5.4 Flight Safety**

All flight safety procedures, related to midair collision, in-flight emergency, and BASH, as described in previous analysis would be followed under Alternative 1. There would be no modifications to Eglin's terminal airspace, however, because Alternative 1 would result in a temporary 39 percent increase in airfield sorties, with the additional demand for the airspace from the F-22 FTU operations, the potential for temporary minor impacts on flight safety would be expected.

#### 3.4.5.5 Special Use Airspace

Analysis of SUA flight risks correlates mishap rates and BASH with airspace utilization; munitions and route obstruction risks are also assessed as flight hazards. Under Alternative 1, there would be a temporary increase of 4,392 annual training sorties in W-151 and W-470 and the GRASI ATCAA. This equates to a 75 percent increase in aircraft operations supporting Eglin AFB in these SUA. Under Alternative 1, there would be no modifications to the existing SUA; however, with the additional demand for the same SUA from the temporary F-22 FTU operations, the potential for temporary minor impacts on flight safety can be expected. As airspace demand in the region increases, the Air Force, in conjunction with other managing agencies, would continue coordination to reduce potential impacts.

#### 3.4.6 *Environmental Consequences – Alternative 2: Additional (Plus Up) Contract ADAIR with F-22 FTU (Eglin)*

##### 3.4.6.1 Eglin Air Force Base

The environmental consequences for airfield and terminal airspace safety under Alternative 2, with the temporary addition of the F-22 FTU sorties and 600 ADAIR sorties, would be the same as those identified above for Alternative 1.

##### 3.4.6.2 Special Use Airspace

The environmental consequences for safety associated with SUA under Alternative 2, with the temporary addition of the F-22 FTU sorties and 600 ADAIR sorties, would be similar to those identified above for Alternative 1.

#### 3.4.7 *Environmental Consequences – Alternative 3*

##### 3.4.7.1 Eglin Air Force Base

Contract ADAIR would follow the Air Force safety guidance identified in Defense Contract Management Agency (DCMA) Instruction (INST) 8210.1C (AFI 10-220). As such, contract ADAIR safety procedures including occupational safety (emergency response and safety zones), explosives safety, and flight safety, including BASH procedures, would be identical to these same procedures described previously. Additionally, there would be no change to safety procedures with Alternative 3, with the addition of 600 contract ADAIR sorties, and no significant impacts on airspace/flight safety would be anticipated to occur under Alternative 3 if contractor flight safety rules are followed, and all applicable airport, FAA, and DCMA INST 8210-1C guidelines are implemented.

##### 3.4.7.2 Special Use Airspace

The environmental consequences for safety associated with SUA under Alternative 3, with the addition of 600 contract ADAIR sorties, would be similar to those identified in **Section 3.4.5**.

#### 3.4.8 *Environmental Consequences – Alternative 4*

##### 3.4.8.1 Northwest Florida Beaches International Airport

Contract ADAIR would follow the Air Force safety guidance identified in DCMA INST 8210.1C (AFI 10-220). As such, contract ADAIR safety procedures at ECP including occupational safety (emergency response and safety zones), explosives safety, and flight safety, including BASH procedures, would be identical to these same procedures described in the March 2022 EA. Additionally, there would be no change to safety procedures with Alternative 4, and no significant impacts on airspace/flight safety would be anticipated to occur under Alternative 4 if contractor flight safety rules are followed, and all applicable airport, FAA, and DCMA INST 8210-1C guidelines are implemented.

#### 3.4.8.2 Special Use Airspace

The environmental consequences for safety associated with SUA under Alternative 4, with the addition of 600 contract ADAIR sorties, would be the same as those identified under Alternative 3.

#### 3.4.9 *No Action Alternative*

Under the No Action Alternative, No Action is contract ADAIR providing 2,400 sorties at Eglin AFB and in the SUA with the departure of the F-22 FTU mission or at ECP and in the SUA as previously analyzed in the March 2022 EA. Under the No Action Alternative, there would be no change to safety.

#### 3.4.10 *Reasonably Foreseeable Future Actions and Other Environmental Considerations*

The Proposed Action, in addition to reasonably foreseeable future actions at Eglin AFB and ECP would follow existing safety procedures and policies for ground and flight operations. Safety zones would not change under Alternatives 1 and 2 with the proposed temporary addition of the F-22 FTU and additional contract ADAIR (Alternative 2 only) or with Alternatives 3 and 4 (additional contract ADAIR only). Contract personnel would be trained and required to follow safety procedures in accordance with established aircraft flight manuals as implemented by the contract. These additional F-22 FTU and contract ADAIR operations would and could pose an increased risk to flight, ground, and explosive safety; however, through compliance with the FAA and the DoD guidelines specified in DCMA INST 8210-1C, Chapter 6, OSHA standards, and the contract ADAIR BASH Plan/FAA Wildlife Hazard Management Plan (WHMP), the potential impact would be minimized. As airspace demand in the region increases, the Air Force, in conjunction with other managing agencies, would continue coordination to reduce potential impacts. As such, minimal effects on flight, ground and explosive safety would be expected with implementation of Proposed Action Alternatives 1, 2, 3, or 4.

### 3.5 AIR QUALITY

#### 3.5.1 *Definition of the Resource*

The definition of the resource for air quality was described in the March 2022 EA and is incorporated by reference. Air quality in various areas of the country is affected by pollutants emitted by numerous sources, including natural and man-made sources. The United States Environmental Protection Agency (USEPA) has divided the country into geographical regions known as Air Quality Control Regions (AQCRs) to evaluate compliance with the National Ambient Air Quality Standards (NAAQS) (40 CFR §50), which are established for six criteria air pollutants.

Greenhouse gases (GHGs) are gases, occurring from natural processes and human activities, that trap heat in the atmosphere. The accumulation of GHGs in the atmosphere helps regulate the earth's temperature and are believed to contribute to global climate change. USEPA regulates GHG emissions via permitting and reporting requirements that are applicable mainly to large stationary sources of emissions.

For purposes of this EA, there are two ROIs for air quality for each alternative. One includes the AQCR within which Eglin AFB or ECP (including areas within their vicinities) is located. The other ROI includes portions of the Warning Areas (W-151 and W-470) over the waters of the Gulf of Mexico.

Also considered in the air quality analysis are the ground support and fueling activities that take place on or adjacent to the airfield. With respect to the SUA, W-151 and W-470, a portion of the contract ADAIR and F-22 FTU training is expected to occur at or below 3,000 ft within these SUA. However, nearly all the SUA for W-151 and W-470 is located beyond the State Seaward boundary, which is 9 NM from the Florida Gulf Coast, and the US territorial sea limit, which is 12 NM from the coast. Thus, as W-151 and W-470 are located 3 NM from the coast and extend out approximately 100 NM, only a very small portion of the SUA would fall under

state jurisdiction with respect to NAAQS compliance. Because all contract ADAIR training would occur above 3,000 ft in the GRASI ATCAA, it is not addressed further in the air quality assessment.

See **Appendix C.3** for a detailed discussion on air quality regulations, ROIs, general conformity, climate and GHGs.

### ***3.5.2 Existing Conditions – Eglin Air Force Base***

The regional climate of the Florida Panhandle was described in the March 2022 EA and is incorporated by reference. Eglin AFB is located in Okaloosa, Santa Rosa, and Walton counties. However, the proposed project action area is located entirely within Okaloosa County, which is in attainment for all NAAQS pollutants. Because of the attainment status, Eglin AFB proposed for contract ADAIR training would not be subject to the General Conformity Rule.

### ***3.5.3 Existing Conditions – Northwest Florida Beaches International Airport***

The regional climate of the Florida Panhandle is described in the March 2022 EA and is incorporated by reference.

Located in Bay County, ECP is part of the Mobile (Alabama)-Pensacola-Panama City (Florida)-Southern Mississippi Interstate AQCR. This region has been designated attainment/unclassifiable for all criteria pollutants (40 CFR § 81.334). As a result, General Conformity will not be applicable in the vicinity of the airport.

### ***3.5.4 Existing Conditions – Special Use Airspace***

The portion of the SUA ROI close to the shore is affected by many of the same weather features that affect Eglin AFB. Because of the proximity of W-151 and W-470 to Eglin AFB, they fall within the same regional climate regime as Eglin AFB and its surroundings. Both Warning Areas fall within areas that are classified as humid subtropical climates.

The nearest onshore coastal counties bordering W-151 and W-470 are in attainment for all criteria pollutants. All the counties within and bordering the SUA are part of the Mobile (Alabama)-Pensacola-Panama City (Florida)-Southern Mississippi Interstate AQCR or the Jacksonville (Florida)-Brunswick (Georgia) Interstate AQCR. Because of the attainment status, the airspace proposed for contract ADAIR support and F-22 FTU training would not be subject to the General Conformity Rule.

### ***3.5.5 Environmental Consequences Evaluation Criteria***

The evaluation criteria were described in the March 2022 EA and are incorporated by reference. The overland project areas associated with the Eglin AFB and ECP as well as the SUA are in areas that are designated attainment (or unclassified) for all criteria pollutants. Because these areas are designated attainment/unclassified, an air analysis would be performed without considering General Conformity for any of the proposed alternatives. Also, the projects areas are not located within 6.2 mi (10 km) of any designated Class I areas and are not considered further with respect to regional haze regulations.

Based on guidance in Chapter 4 of the *Air Force Air Quality Environmental Impact Analysis Process Guide, Volume II – Advanced Assessments* (Air Force, 2020c) project criteria pollutant emissions were compared against the insignificance indicator of 250 tons per year (tpy) for Prevention of Significant Deterioration (PSD) major source threshold for actions occurring in areas that are in attainment for all criteria pollutants (25 tpy for lead). These “Insignificance Indicators” were used in the analysis to provide an indication of the significance of potential impacts on air quality based on current ambient air quality relative to the NAAQSS. These insignificance indicators do not define a significant impact; however, they do provide a threshold to identify actions that are insignificant. Any action with net emissions below the insignificance indicators for all criteria pollutant is considered so insignificant that the action will not cause or contribute to an

exceedance on one or more NAAQSS. Although PSD and Title V are not applicable to mobile sources, the PSD major source thresholds provide a benchmark to compare air emissions against and to determine project impacts.

Operations in the Warning Areas would occur mostly outside the state jurisdictional boundary and outside the AQCR. W-151 and W-470 begin 3 NM from the coastline; the state jurisdictional boundary for Florida in the Gulf of Mexico extends 9 NM from the coastline. Thus, there is a 6 NM overlap in state jurisdiction and the Warning Areas; however, both Warning Areas extend roughly 100 NM into the Gulf of Mexico. As a result, it can be assumed that approximately 6 percent of the ADAIR emissions in the Warning Areas would occur in the 6 NM overlap area. To assess potential impacts, project emissions from the Warning Areas are compared against the criteria used for the overland project areas, as outlined above.

The GRASI ATCAA was not included in the analysis, as all ADAIR training for the ATCAA would occur above 3,000 ft. As discussed in **Section 3.5.1**, only air operations occurring at or below 3,000 ft AGL are considered in the impact analysis; thus, only the airfields at Eglin AFB, ECP and Warning Areas W-151 and W-470 were evaluated.

The Air Force Air Conformity Applicability Model (ACAM) (5.0.17b) was used to estimate criteria and precursor pollutant emissions for contract ADAIR airfield operations, maintenance activities, worker commutes, and flight operations in the SUA. Emissions from ACAM were determined separately for the airport and SUA ROIs. By default, ACAM only accounts for emissions occurring at or below 3,000 ft within the mixing layer and emissions are evaluated using this default; aircraft emissions released above 3,000 ft were not included in analysis for the ROIs. In addition, emissions associated with the use of flares at or below 3,000 ft within the SUA were estimated using draft emission factors found in AP-42, Section 15.8 (USEPA, 2009). There are no stationary sources associated with this action, other than for fueling and storage. Assumptions of the model are discussed in **Appendix C.3**. The basis for the air emissions calculations performed is listed in **Table 3-43**.

For climate change considerations, carbon dioxide emissions from the burning of fuel during aircraft operations are the main source of GHGs and are estimated for the proposed action alternatives. To provide a more regional perspective estimated GHG project emissions are compared against reported state-wide carbon dioxide emissions from primary combustion sources and are presented in **Appendix C.3**.

**Table 3-42  
Basis of Air Emission Calculations**

Location	Type of Operation	Number of Training Sorties per Year <sup>1</sup>		Ground Operation Emission Sources
		Previously Analyzed Contract ADAIR	Proposed Additional Contract ADAIR	
Eglin AFB and ECP	LTO Cycles	2,400 <sup>a</sup>	600 <sup>a</sup>	Auxiliary power unit equipment, AGE, personal vehicle use, aircraft maintenance (solvent use), fuel handling and storage, aircraft trim tests (12 per aircraft)
	TGO Cycles	360 <sup>b</sup>	90 <sup>b</sup>	
W-151 (A-F)	Sorties at ≤3,000 ft AGL	1,862 <sup>c</sup>	465 <sup>c</sup>	Not Applicable
GRASI ATCAA	All Sorties ≥3,000 ft AGL	Not Applicable – No Analysis <sup>2</sup>		Not Applicable



**Table 3-42  
Basis of Air Emission Calculations**

Location	Type of Operation	Number of Training Sorties per Year <sup>1</sup>		Ground Operation Emission Sources
		Previously Analyzed Contract ADAIR	Proposed Additional Contract ADAIR	
W-470 (A-E)	Sorties at ≤3,000 ft AGL	72 <sup>c</sup>	19 <sup>c</sup>	Not Applicable

Notes:

<sup>a</sup> Air quality impacts are assessed for the airfield based on the total annual sorties from the selected airfield.

<sup>b</sup> 5 percent of total sorties flying to the SUA (2,400 or 600) are for contractor proficiency training. Each of those 5 percent sorties is assumed to include three TGO/low approaches.

<sup>c</sup> Impacts include flare use at and below 3,000 ft.

<sup>1</sup> Estimated time per sortie spent at or below 3,000 ft altitude = 4.73 minutes.

<sup>2</sup> Sorties occur above the atmospheric mixing height. No emissions calculated.

AGE = aerospace ground equipment; AGL= above ground level; ATCAA = Air Traffic Control Assigned Airspace; ft = foot(feet); GRASI = Gulf Regional Airspace Strategic Initiative; LTO = Landing and Takeoff; TGO = Touch and Go

### 3.5.6 *Environmental Consequences – Alternative 1: Contract ADAIR with F-22 FTU (Eglin)*

#### 3.5.6.1 Eglin Air Force Base

Air quality impacts at Eglin AFB from the operation of 2,400 contract ADAIR sorties were previously analyzed as Alternative 1 in the March 2022 EA. Based on the analysis in the EA, operations from Alternative 1 at Eglin AFB were not anticipated to result in increases in emissions that would potentially interfere adversely with the region's ability to maintain compliance with the NAAQS for attainment area pollutants. Likewise, emissions associated with the F-22 FTU aircraft operations at Eglin AFB were calculated and their emissions were analyzed in the *Special EA for Emergency Beddown of the F-22 Formal Training Unit and Associated T-38 Aircraft from Tyndall AFB to Eglin AFB, Florida* (Air Force, 2019). Based on the modeling analyses in the Special EA for Scenario 1, emissions from F-22 FTU operations would not be expected to result in any significant increase in air emissions, and no adverse impacts on air quality would be anticipated to occur.

**Table 3-44** presents estimated Eglin AFB operational emissions for Alternative 1 in the March 2022 EA.

**Table 3-43  
Contract ADAIR Emissions - Eglin AFB and F-22 FTU**

Proposed Action Operations	Emissions (tpy)								
	VOC	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2e</sub>	Pb	NH <sub>3</sub>
<b>Contract ADAIR Scenario<sup>1,2,3</sup></b>									
High	11.9	56.5	89.6	4.8	8.1	7.3	11,458	0	0.01
Medium	6.6	32.8	45.3	3.1	4.6	3.1	7,637	0	0.01
Low	31.2	14.7	158.7	2.3	1.3	1.2	4,939	0	0.01
<b>F-22 FTU<sup>4</sup> Mission</b>	15.8	155.7	182.8	13.6	19.6	15.7	41,400	-	-

Source: Air Conformity Applicability Model output for contract ADAIR

Notes:

<sup>1</sup> The emissions were estimated for each year of the Proposed Action beginning in January 2023 and ending in December 2032.

<sup>2</sup> Represents total per year emissions for: 1) flight operations (includes trim tests and auxiliary power unit use), 2) aerospace ground equipment, 3) aircraft maintenance (parts cleaning), and 4) Jet-A storage (fuel for contract ADAIR operations only - includes contract ADAIR fuel for LTOs, TGOs, trim tests, airspace use, and travel to the airspace).

<sup>3</sup> Based on 2,400 LTOs and 360 TGOs per year.

<sup>4</sup> Based on emissions calculated in *Special EA for Emergency Beddown of the F-22 Formal Training Unit (FTU) and Associated T-38 Aircraft from Tyndall AFB to Eglin AFB, Florida*; Scenario 1-Relocation plus a Baseline of 2018 AICUZ with Navy F-35C. Includes Eglin AFB ROI airfield and airspace emissions.

ADAIR = adversary air; NO<sub>x</sub> = nitrogen oxides; CO = carbon monoxide; CO<sub>2e</sub> = carbon dioxide equivalent; LTO = landing and takeoff; NH<sub>3</sub> = ammonia; Pb = lead; PM<sub>2.5</sub> = particulate matter less than 2.5 microns; PM<sub>10</sub> = particulate matter less than 10 microns; SO<sub>x</sub> = sulfur oxides; TGO = touch and go; VOC = volatile organic compound; N/A = Not Applicable.

The emission findings for contract ADAIR are documented in the Detail ACAM Report and Record of Air Analysis (ROAA) (**Appendix C.3**).

Emissions associated with the F-22 FTU aircraft operations have been calculated in the *Special EA for Emergency Beddown of the F-22 Formal Training Unit and Associated T-38 Aircraft from Tyndall AFB to Eglin AFB, Florida* (Air Force, 2019). **Table 3-44** presents the emissions from aircraft operations that were estimated under Special EA, Scenario 1 (Relocation plus a Baseline of 2018 AICUZ with Navy F-35C). The F-22 FTU mission emissions referenced from the previously analyzed EA does not break down emissions separately by airfield and airspace. Only total emissions within the Eglin AFB ROI are presented.

Note, Scenario 3 in the *Special EA for Emergency Beddown of the F-22 Formal Training Unit and Associated T-38 Aircraft from Tyndall AFB to Eglin AFB, Florida* (Air Force, 2019) is similar to Scenario 1 in the same document, but Scenario 3 does not include Navy F-35C operations. For the Proposed Action, Scenario 1 is used for analysis as it represents a more conservative emissions estimate. As per the Scenario 1 emissions calculations, impacts from the addition of F-22 and T-38 aircraft operations would not exceed 250 tpy. Based on the modeling analyses in the *Special EA for Emergency Beddown of the F-22 Formal Training Unit and Associated T-38 Aircraft from Tyndall AFB to Eglin AFB, Florida* (Air Force, 2019), the Proposed Action Scenario 1 would not be expected to result in any significant increase in air emissions, and no adverse impacts would occur.

### 3.5.6.2 Special Use Airspace

Emissions resulting from contract ADAIR operations for Alternative 1 of the Proposed Action for SUA are presented in **Table 3-44**.

Air quality impacts in the SUA from the operation of 2,400 contract ADAIR sorties were previously analyzed as Alternative 1 in the March 2022 EA, Alternative 1. Based on the analysis in the EA, SUA operations from Alternative 1 were not anticipated to result in increases in emissions that would potentially interfere with the region's ability to maintain compliance with the NAAQS for attainment area pollutants. Likewise, emissions associated with the F-22 FTU aircraft operations at Eglin AFB have been calculated in the *Special EA for Emergency Beddown of the F-22 Formal Training Unit and Associated T-38 Aircraft from Tyndall AFB to Eglin AFB, Florida* (Air Force, 2019). Based on the modeling analyses in the Special EA, the emissions

from F-22 FTU operations for Scenario 1 would not be expected to result in any significant increase in air emissions, and no adverse impacts would be anticipated to occur. Eglin AFB ROI airfield and airspace F-22 FTU emissions were considered together for the analysis.

Contract ADAIR sorties proposed in W-151 and W-470 would be at or below 3,000 ft AGL, and thus, these regions are included in the air quality analysis. Consistent with the USEPA recommendation regarding mixing height, only those emissions that would occur within the mixing layer (lowest 3,000 ft) were analyzed. Out of the proposed 2,400 contract ADAIR sorties, only a small portion would occur at or below 3,000 ft AGL as previously listed in **Table 3-43**. For the SUA, chaff, if allowed, was not considered to have an air quality impact as it has been determined that chaff material maintains its integrity after ejection and that the use of explosive charge in impulse cartridges results in minimal particulate matter less than 10 microns (PM<sub>10</sub>) emissions (Air Force, 1997). Flare emissions were only determined for areas where flare use would occur at or below 3,000 ft.

The emissions associated with contract ADAIR sorties proposed for the SUA were evaluated using ACAM for the High, Medium, and Low Scenarios. Flare emissions for the SUA were based upon the methodologies in AP-42. The flight time in the mixing layer was estimated to be approximately 4.73 minutes per sortie. In addition, it was assumed the time it would take to fly from the prospective airport to and from the SUA would occur at an altitude above 3,000 ft AGL, and thus, this portion of the sortie is not included in the analysis. The methodologies, emission factors, and assumptions used for the emission estimates for each of the scenarios are outlined in **Appendix C.3**. The closest onshore areas for the SUA ROI are in attainment for all criteria pollutants, thus, general conformity rule would not apply. The SUA estimated emissions are compared against the 250 tpy indicator of insignificance for pollutants in attainment areas.

**Table 3-45** presents estimated SUA operational emissions for 2,400 contract ADAIR sorties. Note, Alternative 1 airspace emissions estimated for the Proposed Action alternative are identical to SUA emissions estimated for Alternative 1 in the March 2022 EA. Airspace emissions for all scenarios are quite low when compared to the insignificant indicator threshold of 250 tpy for all criteria pollutants. Looking at all criteria pollutants, the highest emission rate of 30.6 tpy for nitrogen oxides (NO<sub>x</sub>) for W-151 High Scenario is still lower than the indicator value. As discussed in **Section 3.5.5**, most of the operations in the proposed Warning Areas would occur mostly outside the state jurisdictional boundary and outside the AQCR. As a result, only a small percentage, an estimated 6 percent, of the contract ADAIR emissions would occur in the AQCR area within state jurisdictional boundaries. Based on this analysis alone, the additional emissions due to contractor ADAIR operations in the SUA would not be considered significant with respect to air quality impacts. These emission findings are documented in the ROAA (**Appendix C.3**).

Airspace emissions associated with the F-22 FTU aircraft operations and analysis of air quality impacts are discussed in **Section 3.5.6.1**.

**Table 3-44**  
**Contract ADAIR Emissions - Warning Area (W-151 and W-470) Operations**

Airspace Designation	Scenario	Emissions (tpy) <sup>1,2,3</sup>						
		VOC	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2e</sub>
W-151 (A-F)	High	0.160	30.559	0.812	1.207	0.813	0.732	3,648
	Med	0.025	9.105	1.867	0.576	0.311	0.222	1,740
	Low	1.313	0.750	14.025	0.349	0.005	0.004	1,055
W-470 (A-E)	High	0.006	1.182	0.031	0.047	0.032	0.029	141
	Med	0.001	0.352	0.072	0.022	0.013	0.010	67
	Low	0.051	0.029	0.542	0.013	0.001	0.001	41
Insignificance Indicator (ton/yr)		250	250	250	250	250	250	N/A

Source: Air Conformity Applicability Model output for SUA flight operations. Emissions presented in table include emissions from flares that were estimated using AP-42 and added to ACAM model output results from SUA flight operations.

Notes:

<sup>1</sup> While contract ADAIR targeted performance is estimated to start in January 2023 with a 10-year contract, the emissions were estimated for each year of the Proposed Action beginning in January 2023 and ending in December 2032.

<sup>2</sup> Represents total tons per year emissions.

<sup>3</sup> Emission based on 2,400 sorties.

NO<sub>x</sub> = nitrogen oxides; CO = carbon monoxide; CO<sub>2e</sub> = carbon dioxide equivalent; NH<sub>3</sub> = ammonia; Pb = lead; PM<sub>2.5</sub> = particulate matter less than 2.5 microns; PM<sub>10</sub> = particulate matter less than 10 microns; SO<sub>x</sub> = sulfur oxides; VOC = volatile organic compound; N/A = Not Applicable.

### 3.5.7 Environmental Consequences – Alternative 2: Additional (Plus Up) Contract ADAIR with F-22 FTU (Eglin)

#### 3.5.7.1 Eglin Air Force Base

Under Alternative 2, contract ADAIR generated air emissions for Eglin AFB would be strictly the result of additional (Plus Up) operations by contract ADAIR aircraft; no construction of new facilities is proposed. **Table 3-46** presents total increases in annual operational emissions due to the additional contract ADAIR operations for the Eglin AFB ROI and emission scenario. The methodologies, emission factors, and assumptions used for the emission estimates for each of the scenarios and related activities are outlined in **Appendix C.3**. The project alternative's estimated emissions are compared against the 250 tpy indicator of insignificance for pollutants in attainment areas.

Impacts from the addition of volatile organic compounds (VOCs) and NO<sub>x</sub> in all three emission scenarios would be well below the insignificance indicator threshold for PSD of 250 tpy (see **Table 3-46**). Of all emissions, CO has the highest annual emission rate of 40.8 tpy under the Low Scenario which would still be below 250 tpy and would not be considered significant. The analysis results presented above demonstrate that for the airfield operations in Okaloosa County, the Proposed Action will not interfere with the region's ability to maintain compliance with the NAAQS for attainment area pollutants (CO, VOC, NO<sub>x</sub>, PM, and SO<sub>x</sub>). These emission findings are documented in the Detail ACAM ROAA (**Appendix C.3**).

**Table 3-45  
Additional (Plus Up) Contract ADAIR Emissions - Eglin Air Force Base**

Scenario	Emissions (tpy) <sup>1,2,3</sup>								
	VOC	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2e</sub>	Pb	NH <sub>3</sub>
High	3.8	15.6	22.9	1.3	2.1	1.9	3,135	0	0.003
Medium	2.4	8.8	11.9	0.8	1.2	0.8	2,029	0	0.003
Low	8.7	3.7	40.8	0.6	0.3	0.3	1,307	0	0.003
Insignificance Indicator (ton/yr)	250	250	250	250	250	250	N/A	25	250

Source: Air Conformity Applicability Model output

Notes:

<sup>1</sup> The emissions were estimated for each year of the Proposed Action beginning in January 2023 and ending in December 2032.

<sup>2</sup> Represents total per year emissions for: 1) flight operations (includes trim tests and auxiliary power unit use), 2) aerospace ground equipment, 3) aircraft maintenance (parts cleaning), and 4) Jet-A storage (fuel for contract ADAIR operations only - includes additional (Plus Up) contract ADAIR fuel for LTOs, TGOs, trim tests, airspace use, and travel to the airspace).

<sup>3</sup> Based on 600 LTOs and 90 TGOs per year.

ADAIR = adversary air; NO<sub>x</sub> = nitrogen oxides; CO = carbon monoxide; CO<sub>2e</sub> = carbon dioxide equivalent; LTO = landing and takeoff; NH<sub>3</sub> = ammonia; Pb = lead; PM<sub>2.5</sub> = particulate matter less than 2.5 microns; PM<sub>10</sub> = particulate matter less than 10 microns; SO<sub>x</sub> = sulfur oxides; TGO = touch and go; VOC = volatile organic compound; N/A = Not Applicable.

### 3.5.7.2 Special Use Airspace

Airspace emissions that would result from operating additional contract ADAIR sorties are presented in **Table 3-47**. Emission increases for the SUA for all scenarios are well below the insignificant indicator threshold of 250 tpy for all criteria pollutants. Looking at all criteria pollutants, the highest emission rate of 7.65 tpy for NO<sub>x</sub> for the W-151 High Scenario is much lower than the indicator value. Emissions increases due to the additional contract ADAIR aircraft operations in the SUA would not be considered significant with respect to air quality impacts and as a result no adverse impacts would be anticipated to occur. These emission findings are documented in the ROAA (**Appendix C.3**).

**Table 3-46  
Additional (Plus Up) Contract ADAIR Emissions – Warning Area (W-151 and W-470) Operations**

Airspace Designation	Scenario	Emissions (tpy) <sup>1,2,3</sup>						
		VOC	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2e</sub>
W-151 (A-F)	High	0.040	7.648	0.203	0.302	0.204	0.184	913
	Med	0.006	2.279	0.467	0.144	0.079	0.056	436
	Low	0.329	0.188	3.510	0.087	0.002	0.002	264
W-470 (A-E)	High	0.002	0.295	0.008	0.012	0.008	0.007	35
	Med	<0.001	0.088	0.018	0.006	0.003	0.002	17
	Low	0.013	0.007	0.136	0.003	<0.001	<0.001	10
Insignificance Indicator (ton/yr)		250	250	250	250	250	250	N/A

Source: Air Conformity Applicability Model output for SUA flight operations. Emissions presented in table include emissions from flares that were estimated using AP-42 and added to ACAM model output results from SUA flight operations.

Notes:

<sup>1</sup> While contract ADAIR targeted performance is estimated to start in January 2023 with a 10-year contract, the emissions were estimated for each year of the Proposed Action beginning in January 2023 and ending in December 2032.

<sup>2</sup> Represents total tons per year emissions.

<sup>3</sup> Emission based on 600 sorties.

NO<sub>x</sub> = nitrogen oxides; CO = carbon monoxide; CO<sub>2e</sub> = carbon dioxide equivalent; NH<sub>3</sub> = ammonia; Pb = lead; PM<sub>2.5</sub> = particulate matter less than 2.5 microns; PM<sub>10</sub> = particulate matter less than 10 microns; SO<sub>x</sub> = sulfur oxides; VOC = volatile organic compound; N/A = Not Applicable.

### 3.5.8 Environmental Consequences – Alternative 3: Additional (Plus Up) Contract ADAIR without F-22 FTU (Eglin)

#### 3.5.8.1 Eglin Air Force Base

Under Alternative 3, contract ADAIR generated air emissions for Eglin AFB would be strictly the result of additional (Plus Up) flight operations by contract ADAIR aircraft and the removal of emissions resulting from F-22 FTU operations currently operating at Eglin AFB.

Net change in emissions estimated for Alternative 3 are summarized in **Table 3-48**. As seen in the table, emission impacts from the additional contract ADAIR operations associated with Alternative 3 and the subtraction of F-22 FTU operations currently at Eglin AFB would not exceed 250 tpy but, would in fact, result in a net reduction in criteria pollutant emissions. As a result, no adverse impact on air quality would be anticipated. Due to the reduction in emissions from Alternative 3, there may be a marginal beneficial impact on the air quality in and around Eglin AFB, but these impacts would not likely be significant within the ROI.

**Table 3-47  
Net Change in Emissions for Alternative 3 - Eglin Air Force Base**

Proposed Action Operations	Emissions (tpy)								
	VOC	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2e</sub>	Pb	NH <sub>3</sub>
<b>ADAIR Additional (Plus Up) Scenario<sup>1,2,3</sup></b>									
High	3.8	15.6	22.9	1.3	2.1	1.9	3,135	0	0.003
Medium	2.4	8.8	11.9	0.8	1.2	0.8	2,029	0	0.003
Low	8.7	3.7	40.8	0.6	0.3	0.3	1,307	0	0.003
<b>F-22 FTU<sup>4</sup> Mission (subtraction)</b>	15.8	155.7	182.8	13.6	19.6	15.7	41,400	-	-
<b>Alternative 3 Net Emissions Change<sup>5</sup></b>									
High	(12.0)	(140.1)	(159.9)	(12.3)	(17.5)	(13.8)	(38,265.4)	0	0.003
Medium	(13.4)	(146.9)	(171.0)	(12.8)	(18.4)	(14.9)	(39,370.8)	0	0.003
Low	(7.1)	(152.0)	(142.1)	(13.0)	(19.3)	(15.4)	(40,093.4)	0	0.003
Insignificance Indicator (ton/yr)	250	250	250	250	250	250	N/A	25	250

Source: Source: Air Conformity Applicability Model output for additional (Plus Up) Contract ADAIR

Notes:

<sup>1</sup> The emissions were estimated for each year of the Proposed Action beginning in January 2023 and ending in December 2032.

<sup>2</sup> Represents total per year emissions for: 1) flight operations (includes trim tests and auxiliary power unit use), 2) aerospace ground equipment, 3) aircraft maintenance (parts cleaning), and 4) Jet-A storage (fuel for contract ADAIR operations only - includes contract ADAIR fuel for LTOs, TGOs, trim tests, aerospace use, and travel to the airspace).

<sup>3</sup> Based on 2,400 LTOs and 360 TGOs per year.

<sup>4</sup> Based on emissions calculated in Special EA for Emergency Beddown of the F-22 Formal Training Unit (FTU) and Associated T-38 Aircraft from Tyndall AFB to Eglin AFB, Florida; Scenario 1-Relocation plus a Baseline of 2018 AICUZ with Navy F-35C. Includes Eglin AFB ROI airfield and airspace emissions.

<sup>5</sup> Emissions from increased (Plus Up) Contract ADAIR operations minus emissions from F-22 FTU currently operating at Eglin AFB  
ADAIR = adversary air; NO<sub>x</sub> = nitrogen oxides; CO = carbon monoxide; CO<sub>2e</sub> = carbon dioxide equivalent; LTO = landing and takeoff; NH<sub>3</sub> = ammonia; Pb = lead; PM<sub>2.5</sub> = particulate matter less than 2.5 microns; PM<sub>10</sub> = particulate matter less than 10 microns; SO<sub>x</sub> = sulfur oxides; TGO = touch and go; VOC = volatile organic compound; N/A = Not Applicable.



### 3.5.8.2 Special Use Airspace

Under Alternative 3, contract ADAIR generated air emissions in the SUA would be strictly the result of additional operations by contract ADAIR aircraft and the removal of airspace associated emissions resulting from F-22 FTU operations currently operating at Eglin AFB.

Contract ADAIR additional emissions in the SUA for Alternative 3 are the same as those analyzed for Alternative 2 and are as summarized in **Table 3-47**. Emission increases for all scenarios would not exceed the threshold of 250 tpy for any of the criteria pollutants. Based on this analysis, emission impacts from the increased (Plus Up) contract ADAIR operations in the SUA associated with Alternative 3 and the subtraction of F-22 FTU airspace operations that are currently operating would not exceed 250 tons per year. There may, in fact, be a net reduction in air emissions due to the ending of F-22 FTU operations at Eglin AFB and associated airspace. As a result, no adverse impact to air quality within the ROI would be anticipated.

Note, net SUA emissions are not quantified for Alternative 3 as was done for the Eglin airfield emissions in **Section 3.5.8**. This is because Scenario 3 in the *Special EA for Emergency Beddown of the F-22 Formal Training Unit and Associated T-38 Aircraft from Tyndall AFB to Eglin AFB, Florida* (Air Force, 2019) does not break down F-22 FTU emissions by airfield and airspace.

## 3.5.9 Environmental Consequences – Alternative 4: Additional (Plus Up) Contract ADAIR with F-22 FTU (ECP)

### 3.5.9.1 Northwest Florida Beaches International Airport

Under Alternative 4, contract ADAIR generated air emissions for ECP would be strictly the result of additional (Plus Up) air operations by contract ADAIR aircraft. Under Alternative 4, there would be no construction of new facilities. **Table 3-49** presents total increases in annual operational emissions due to the additional contract ADAIR operations for the ECP ROI and emission scenario. The methodologies, emission factors, and assumptions used for the emission estimates for each of the scenarios and related activities are outlined in **Appendix C.3**. The project alternative's estimated emissions are compared against the 250 tpy indicator of insignificance for pollutants in attainment areas.

Located in Bay County, ECP is in an attainment area for all criteria pollutants and there are no pollutants of major concern. In all three emission scenarios, VOC and NO<sub>x</sub> would be well below the insignificance indicator threshold of 250 tpy (see **Table 3-49**). Looking at all criteria pollutants, CO would have the highest annual emission rate of 40.8 tpy under the Low Scenario. Given that the expected CO emissions would be below PSD thresholds and the lack of a CO nonattainment history in the AQCR, the CO emissions associated with the Low Emission Scenario would not be considered significant. For the remaining pollutants (VOC, sulfur oxides [SO<sub>x</sub>], particulate matter (PM) less than 2.5 microns [PM<sub>2.5</sub>], PM<sub>10</sub>, and NO<sub>x</sub>), the annual emission increases would also not be considered significant, as they would also be below the 250 tpy PSD threshold. The analysis results presented above demonstrate that for the airfield operations in Bay County, the Proposed Action will not interfere with the region's ability to maintain compliance with the NAAQS for attainment area pollutants (CO, VOC, NO<sub>x</sub>, PM, and SO<sub>x</sub>).

These emission findings are documented in the Detail ACAM Report and ROAA (**Appendix C.3**).

**Table 3-48  
Additional (Plus Up) Contract ADAIR Emissions - Northwest Florida Beaches International Airport  
Operations**

Scenario	Emissions (tpy) <sup>1,2,3</sup>								
	VOC	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2e</sub>	Pb	NH <sub>3</sub>
High	2.8	15.6	22.9	1.3	2.1	1.9	3,134.6	0	0.003
Medium	1.4	8.8	11.9	0.8	1.2	0.8	2,029.2	0	0.003
Low	7.7	3.7	40.8	0.6	0.3	0.3	1,306.6	0	0.003
Insignificance Indicator (ton/yr)	250	250	250	250	250	250	N/A	25	250

Source: Air Conformity Applicability Model output for additional (Plus Up) Contract ADAIR

Notes:

<sup>1</sup> The emissions were estimated for each year of the Proposed Action beginning in January 2023 and ending in December 2032.

<sup>2</sup> Represents total per year emissions for: 1) flight operations (includes trim tests and auxiliary power unit use), 2) aerospace ground equipment, 3) aircraft maintenance (parts cleaning), and 4) Jet-A storage (fuel for contract ADAIR operations only - includes contract ADAIR fuel for LTOs, TGOs, trim tests, airspace use, and travel to the airspace).

<sup>3</sup> Based on 600 LTOs and 90 TGOs per year.

ADAIR = adversary air; NO<sub>x</sub> = nitrogen oxides; CO = carbon monoxide; CO<sub>2e</sub> = carbon dioxide equivalent; LTO = landing and takeoff; NH<sub>3</sub> = ammonia; Pb = lead; PM<sub>2.5</sub> = particulate matter less than 2.5 microns; PM<sub>10</sub> = particulate matter less than 10 microns; SO<sub>x</sub> = sulfur oxides; TGO = touch and go; VOC = volatile organic compound; N/A = Not Applicable.

### 3.5.9.2 Special Use Airspace

Refer to **Section 3.5.7.2** as the Proposed Action under this alternative would use the same SUA for training and the number of contract ADAIR sorties proposed would also be the same.

### 3.5.10 No Action Alternative

The No Action Alternative would include the contract ADAIR providing 2,400 sorties at Eglin AFB with the departure of the F-22 FTU mission, or all 2,400 contract ADAIR sorties at ECP. This scenario, which has been previously analyzed in the March 2022 EA, did not show any significant increase in air emissions. Thus, no adverse impacts would occur at Eglin AFB or ECP.

### 3.5.11 Reasonably Foreseeable Future Actions and Other Environmental Considerations

Implementation of Alternative 1 or 2, in addition to reasonably foreseeable future actions at Eglin AFB, would result in moderate, long term adverse air quality impacts but the impacts on regional air quality are likely to be less than significant. With any addition of ongoing and new construction projects in the area, PM<sub>10</sub> emissions could increase as some of these projects are anticipated to take place in the same timeframe as the Proposed Action; however, these increases would be short in duration and the incremental impact on air quality would be negligible. Additional proposed beddown actions at Eglin AFB and Tyndall AFB would increase criteria pollutant emissions as contract ADAIR projects could use the same airspace and installation resources. Impacts on air quality would result primarily from aircraft operations and associated activity emissions at Eglin AFB and its vicinity. However, minimal incremental change to air quality would be expected when adding the Proposed Action reasonably foreseeable future actions.

Implementation of Alternative 3 at Eglin AFB, in addition to reasonably foreseeable future actions, would result in additional impacts on air quality in the immediate environs of the airport, however, these impacts would not likely be significant.

Implementation of Alternative 4 at ECP, in addition to reasonably foreseeable future actions, would result in additional impacts on air quality, however, these impacts would not likely be significant. With any addition of ongoing and new construction projects in the area, PM<sub>10</sub> emissions could increase as some of these

projects are anticipated to take place in the same timeframe as the Proposed Action; however, these increases would be short in duration and the incremental impact on air quality would be negligible.

Additional contract ADAIR sorties would occur at times below the mixing height of 3,000 ft AGL (see **Section 3.5.6.2**) in W-151 and W-470; however, the duration would be short (approximately 4.73 minutes per sortie), and of the 600 sorties, only a small portion would occur at or below 3,000 ft AGL; therefore, impacts on air quality would not likely be significant and no incremental change to air quality would be expected when adding the Proposed Action to reasonably foreseeable future actions.

### 3.6 BIOLOGICAL RESOURCES

#### 3.6.1 Existing Conditions – Eglin Air Force Base

The definition of the resource, regional biological setting, and existing conditions for vegetation and wildlife and threatened and endangered species at the Eglin AFB airfield were described in the March 2022 EA and are incorporated by reference. Most of the area around the airfield and within its noise contours on base are within turf and landscaped areas or extend into marine habitats associated with the nearshore environment of the Gulf of Mexico. There are 16 federally listed species that occur either seasonally or year-round at the Eglin Reservation (Eglin AFB, 2017 and USFWS, 2022):

- Piping plover (*Charadrius melodus*; Threatened)
- Red knot (*Calidris canutus rufa*; Threatened)
- Red-cockaded woodpecker (*Dryobates borealis*; Endangered)
- Reticulated flatwoods salamander (*Ambystoma bishopi*; Endangered)
- Okaloosa darter (*Etheostoma okaloosae*; Threatened)
- Gulf sturgeon (*Acipenser oxyrinchus desotoi*; Threatened)
- Eastern indigo snake (*Drymarchon couperi*; Threatened)
- Green turtle (*Chelonia mydas*; Threatened)
- Leatherback turtle (*Dermochelys coriacea*; Endangered)
- Loggerhead turtle (*Caretta caretta*; Threatened)
- Kemp's ridley turtle (*Lepidochelys kempii*; Endangered)
- Florida perforate lichen (*Cladonia perforata*; Endangered)
- Choctaw bean (*Villosa choctawensis*; Endangered)
- Narrow pigtoe (*Fusconaia escambia*; Threatened)
- Southern sandshell (*Hamiota australis*; Threatened)
- Fuzzy pigtoe (*Pleurobema strodeanum*; Threatened)

Other federally listed species such as the West Indian manatee (*Trichechus manatus*; Threatened) and wood stork (*Mycteria americana*; Threatened) have been documented on Eglin AFB during seasonal migrations. The American alligator, which is common on Eglin AFB, is also federally listed due to its similarity in appearance with the endangered American crocodile (*Crocodylus acutus*), not because it is an ESA threatened or endangered species.

All federally listed species that occur in Florida are included on Florida's list as federally designated Endangered or federally designated Threatened species. In addition, the state of Florida has a listing process to identify species that are not federally listed but at risk of extinction. These species are called state-designated Threatened. State-listed species that could occur near the Eglin AFB airfield and that could be impacted by contract ADAIR or F-22 FTU aircraft movement and noise include black skimmer (*Rynchops niger*), least tern (*Sterna antillarum*), little blue heron (*Egretta caerulea*), Marian's marsh wren (*Cistothorus palustris marianae*), reddish egret (*Egretta rufescens*), snowy plover (*Charadrius alexandrinus tenuirostris*), southeastern American kestrel (*Falco sparverius paulus*), and tricolored heron (*Egretta tricolor*) (Eglin AFB, 2017 and Florida Fish and Wildlife Conservation Commission [FWC], 2021).

### 3.6.2 Existing Conditions – Northwest Florida Beaches International Airport

The definition of the resource, regional biological setting, and existing conditions for vegetation and wildlife and threatened and endangered species at ECP were described in the March 2022 EA and are incorporated by reference. While ECP itself is highly developed, much of the land surrounding ECP is relatively undeveloped and comprised of forested wetlands and pine plantations. The wood stork and West Indian manatee are the only federally listed species with the potential to occur proximate to ECP (USFWS, 2022) that could potentially be affected by aircraft movement and noise. State listed species that could occur proximate to ECP are the Florida burrowing owl, little blue heron, Marian's marsh wren, southeastern American kestrel, and tricolored heron (FWC, 2021).

### 3.6.3 Existing Conditions – Special Use Airspace

#### 3.6.3.1 Gulf Regional Airspace Strategic Initiative Air Traffic Control Assigned Airspace

The definition of the resource, regional biological setting, and existing conditions for vegetation and wildlife and threatened and endangered species in the SUA were described in the March 2022 EA and are incorporated by reference. The GRASI ATCAA is located within the Southeastern Plains and Southern Coastal Plains Level III Ecoregions. Ecoregions describe areas of similar type, quality, and quantity of environmental resources (USEPA, 2018). Ecoregions are assigned hierarchical levels to delineate ecosystems spatially based on different levels of planning and reporting needs. Level III Ecoregion divides the continental United States into 105 ecoregions (USEPA, 2018). Threatened and endangered species that could be present within the GRASI ATCAA and potentially affected by aircraft movement and aircraft noise include all of those described for Eglin AFB in **Section 3.6.1** as well as the Alabama beach mouse (*Peromyscus polionotus ammobates*; Endangered), Choctawhatchee beach mouse (*Peromyscus polionotus allopshys*; Endangered), gray bat (*Myotis grisescens*; Endangered), Eastern black rail (*Laterallus jamaicensis* ssp. *jamaicensis*; Threatened), Perdido key beach mouse (*Peromyscus polionotus trissyllepsis*; Endangered), and St. Andrew beach mouse (*Peromyscus polionotus peninsularis*; Endangered). Additionally, there is designated Critical Habitat for nine species (Alabama beach mouse, gulf sturgeon, Choctawhatchee beach mouse, frosted flatwoods salamander, narrow pigtoe, Perdido Key beach mouse, piping plover, reticulated flatwoods salamander, and St. Andrew beach mouse) beneath the GRASI ATCAA. State listed species that could occur in the GRASI ATCAA are the same as those listed for Eglin AFB in **Section 3.6.1**.

#### 3.6.3.2 Warning Areas

The definition of the resource, regional biological setting, and existing conditions for biological resources in the Warning Areas were described in the March 2022 EA and are incorporated by reference. There are 24 cetacean species that could occur in waters within the Warning Areas, some as year-round residents and others seasonally as they migrate through the Gulf of Mexico. Threatened and endangered species that could occur in the Warning Areas include the cetacean species fin whale (*Balaenoptera physalus*; Endangered), Rice's whale (*Balaenoptera ricei*; Endangered), sperm whale (*Physeter macrocephalus*; Endangered), sei whale (*Balaenoptera borealis*; Endangered), North Atlantic right whale (*Eubalaena glacialis*; Endangered), as well as the giant manta ray (*Manta birostris*; Threatened), Nassau grouper (*Epinephelus striatus*; Threatened), oceanic whitetip shark (*Carcharhinus longimanus*; Threatened), green turtle, hawksbill turtle, Kemp's ridley turtle, leatherback turtle, and loggerhead turtle.

### 3.6.4 Environmental Consequences Evaluation Criteria

The level of impact on biological resources is based on the

- importance (i.e., legal, commercial, recreational, ecological, or scientific) of the resource;
- proportion of the resource that would be affected relative to its occurrence in the region;
- sensitivity of the resource to the proposed activities; and
- duration of potential ecological ramifications.

The impacts on biological resources are adverse if species or habitats of high concern (i.e., federally and state listed threatened and endangered species, marine mammals, designated critical habitat, and Essential Fish Habitat) are negatively affected over relatively large areas. Impacts are also considered adverse if disturbances cause reductions in population size or distribution of a species of high concern.

As a requirement under the ESA, federal agencies must provide documentation that ensures that agency actions do not adversely affect the existence of any threatened or endangered species. The ESA requires that all federal agencies avoid unauthorized “take” of federally threatened or endangered species or adverse modification of designated critical habitat. The ESA Section 7 consultation process may be informal or formal. Informal consultation concludes when USFWS and/or NMFS concurs with the Air Force’s determination of “may effect, but not likely to adversely affect” listed species. Formal consultation concludes when USFWS and/or NMFS issue a biological opinion with either an Incidental Take Statement that authorizes a specified amount of “take” (or adverse modification of designated critical habitat) or a jeopardy determination. No ESA Section 7 formal consultation is required if the Air Force determines there will be no effect on a threatened or endangered species.

Under the Proposed Action, there would be no ground-disturbing activities and all potential impacts on biological resources would be associated with aircraft operations at Eglin AFB, or ECP and in the SUA. The aircraft operations associated with the Proposed Action could have impacts on biological resources from aircraft movement, the use of defensive countermeasures in the Warning Areas, noise, or BASH.

### **3.6.5 *Environmental Consequences – Alternative 1: Contract ADAIR with F-22 FTU (Eglin)***

#### **3.6.5.1 Eglin Air Force Base**

Continued F-22 FTU aircraft takeoffs and landings at Eglin AFB would have no impacts on vegetation and negligible impacts on wildlife proximate to the airfield. The aircraft movement and noise associated with the continuation of F-22 FTU operations at Eglin AFB would have no effect on any listed species.

#### **Vegetation**

Under the Proposed Action, there would be no ground-disturbing activities and as such no potential to disturb vegetation or habitats on Eglin AFB.

#### **Wildlife**

The impacts on wildlife at Eglin AFB from increased aircraft movement and noise were described in the March 2022 EA and are incorporated by reference. The areas under the 65-dBA and greater DNL contours would temporarily increase, including over Choctawhatchee Bay and areas on and adjacent to Eglin AFB over developed and forested lands; however, the change in the noise environment would not be significant and all continued F-22 FTU aircraft movement would be limited to areas where aircraft takeoffs and landings currently occur. Noise and movement from F-22 FTU aircraft operations at the airfield would be anticipated to have negligible short-term impacts on wildlife, including birds breeding and foraging in nearby relatively undisturbed habitats.

With continued air operations associated with F-22 FTU aircraft at Eglin AFB, there would be a continued risk of BASH; however, Eglin AFB maintains a BASH prevention program specifically to manage BASH risk and implement measures to greatly reduce the likelihood for BASH incidents. The outcome of the BASH program has both increased safety for pilots and military aircraft as well as less incidents of injury or death to birds and other wildlife. As such, with the continued airfield management and risk reduction implementation measures associated with the BASH program, the potential impacts on birds and other wildlife, including bats, from F-22 FTU aircraft strikes during air operations at Eglin AFB would be minor and short-term as discussed in **Section 3.4**.

### **Invasive Species**

There are no activities associated with the Alternative 1 that have the potential to affect invasive species. There would be no ground-disturbing activities that have the potential to spread or remove invasive plants. Similarly, aircraft operations on the airfield would have no impact on invasive plants or wildlife.

### **Threatened and Endangered Species**

The impacts on threatened and endangered species at Eglin AFB from increased aircraft movement and noise were described in the March 2022 EA and are incorporated by reference. Under Alternative 1, there would be no ground-disturbing activities, and all potential impacts on biological resources would be associated with aircraft operations in the project area. Because there would be no ground-disturbing activities, there would be no impacts on federally or state listed plant species, reptiles, amphibians, fish, or invertebrates.

Continued F-22 FTU aircraft takeoffs and landings at Eglin AFB would have no effect on any of listed avian or mammal species as the low-level aircraft movement and aircraft noise do not occur directly over Eglin AFB Gulf of Mexico beaches where federally and state listed shorebirds such as the piping plover, snowy plover, least tern, and red knot could occur. Also, no red-cockaded woodpeckers are known to occur adjacent to the airfield where low altitude takeoffs and landings occur. Continued F-22 FTU takeoffs and landings at Eglin AFB would have no effect on the listed beach mice as the low-level aircraft movement and aircraft noise do not occur directly over Eglin AFB Gulf of Mexico beaches where the listed beach mice are known to occur.

#### **3.6.5.2 Special Use Airspace**

The impacts on biological resources in the SUA from increased aircraft movement, noise, and use of defensive countermeasures were described in the March 2022 EA and are incorporated by reference. There would be no substantial change in the noise environment in the SUA with continued temporary F-22 FTU operations. Most F-22 FTU aircraft operations would occur at high altitudes. As such, it is highly unlikely that aircraft movement in the SUA would adversely impact foraging or migrating birds or have an increased risk of BASH. Therefore, potential direct, adverse impacts on birds from aircraft movement would be negligible. The continued F-22 FTU operations in the SUA, primarily due to the increased use of defensive countermeasures in the Warning Areas, would have minor adverse impacts on wildlife from the risk of birds, mammals, and fish ingesting residual chaff and flare components that reach the surface of the Gulf of Mexico. MMPA take authorization and ESA Section 7 consultation between the Air Force and the NMFS for training activities in the Warning Areas that include F-22 FTU operations have been reinitiated for the Eglin Gulf Test and Training Range (EGTTR). The effect of chaff and flare components during training operations in the Warning Areas on federally listed marine mammals and sea turtles is being programmatically evaluated, and that programmatic evaluation includes training operations similar to and within the limits of the contract ADAIR and temporary F-22 FTU operations. No new effects on federally listed species from additional contract ADAIR and continued F-22 FTU operations in the Warning Areas would be anticipated beyond those that are included in the ongoing MMPA take authorization and ESA Section 7 consultation and would be authorized under the MMPA and ESA following the issuance of a Letter of Authorization under the MMPA and Biological Opinion under the ESA by NMFS.

#### **3.6.6 *Environmental Consequences – Alternative 2: Additional (Plus Up) Contract ADAIR with F-22 FTU (Eglin)***

##### **3.6.6.1 Eglin Air Force Base**

Additional contract ADAIR takeoffs and landings in combination with the continued temporary F-22 FTU aircraft takeoffs and landings at Eglin AFB would have no impacts on vegetation and negligible impacts on wildlife proximate to the airfield. The increased aircraft operations at Eglin AFB would have no effect on any listed species. These impacts on wildlife, invasive species, and threatened and endangered species from



aircraft movement and noise from aircraft operations at Eglin AFB would be the same as described for Alternative 1.

#### **3.6.6.2 Special Use Airspace**

The increased training operations in the SUA from additional contract ADAIR and the continued temporary F-22 FTU operations, primarily due to the increased use of defensive countermeasures in the Warning Areas, would have minor adverse impacts on wildlife from the risk of birds, mammals, and fish ingesting residual chaff and flare components that reach the surface of the Gulf of Mexico. These impacts would be the same as described for Alternative 1. The effect of chaff and flare components during training operations in the Warning Areas on federally listed marine mammals and sea turtles is being programmatically evaluated under the MMPA and ESA, and no new effects on federally listed species from additional contract ADAIR operations and continued temporary F-22 FTU operations would be anticipated.

### **3.6.7 *Environmental Consequences – Alternative 3: Additional (Plus Up) Contract ADAIR without F-22 FTU (Eglin)***

#### **3.6.7.1 Eglin Air Force Base**

Additional contract ADAIR takeoffs and landings at Eglin AFB would have no impacts on vegetation and negligible impacts on wildlife proximate to the airfield. The increased aircraft operations at Eglin AFB would have no effect on any listed species. Because increased takeoffs and landings would have increased risk of bird and animal aircraft strikes, and wildlife near the airfield would be exposed to increased aircraft noise, impacts on wildlife, invasive species, and threatened and endangered species from aircraft operations at Eglin AFB would be similar to those described for Alternative 1.

#### **3.6.7.2 Special Use Airspace**

The increased training operations in the SUA from additional contract ADAIR without the F-22 FTU, primarily due to the increased use of defensive countermeasures in the Warning Areas, would have minor adverse impacts on wildlife from the risk of birds, mammals, and fish ingesting residual chaff and flare components that reach the surface of the Gulf of Mexico. These impacts would be the similar to those described for Alternative 1. The effect of chaff and flare components during training operations in the Warning Areas on federally listed marine mammals and sea turtles is being programmatically evaluated under the MMPA and ESA, and no new effects on federally listed species from additional contract ADAIR operations would be anticipated.

### **3.6.8 *Environmental Consequences – Alternative 4: Additional (Plus Up) Contract ADAIR with F-22 FTU (ECP)***

#### **3.6.8.1 Northwest Florida Beaches International Airport**

There would be no impacts on vegetation or invasive species under Alternative 4 as no ground-disturbing activities at ECP are proposed. The impacts on wildlife at ECP from increased aircraft movement and noise were described in the March 2022 EA and are incorporated by reference. There would be minor, adverse impacts on wildlife from additional contract ADAIR operations at ECP. The increase in noise and additional aircraft operations would have a minor impact on the breeding and foraging activities of wildlife, especially bird and mammal species. The contractor's BASH plan, that would be part of the Quality Management System and integrated with the host Wing's plan, would greatly reduce the likelihood of BASH incidents. Therefore, the increased noise and aircraft movement from additional contract ADAIR operations at ECP would have a minor long-term impact on wildlife, including some state-listed bird species such as the little blue heron and tricolored heron, if they were to be present breeding or foraging proximate to ECP.

The only federally listed species that could occur proximate to ECP are the wood stork and manatee (USFWS, 2022); however, no wood stork rookeries are present near ECP. The presence of wood storks in

the vicinity of ECP would only be during foraging activities; however, wood storks primarily feed in wetlands and shallow ponds and there are no wetlands nor shallow ponds proximate to the airfield where aircraft movement or risk of BASH would affect wood storks. Further, the nearest documented rookery and core foraging area for wood storks is in eastern Gulf County, Florida (USFWS, 2020), approximately 50 mi from ECP. Therefore, it would be highly unlikely for wood storks to be present proximate to the ECP airfield, their occurrence during additional contract ADAIR operations would be negligible, and additional contract ADAIR at ECP would have no effect on the wood stork. Additionally, manatees would only occur rarely in estuarine waters proximate to ECP and in waterways near ECP that connect to the Gulf of Mexico. Increased aircraft operations and changes to the 65- and 75-dBA DNL noise contours would have no effect on foraging manatees that would rarely occur in nearby waterbodies.

### 3.6.8.2 Special Use Airspace

The increased training operations in the SUA from additional contract ADAIR and the continued temporary F-22 FTU operations, primarily due to the increased use of defensive countermeasures in the Warning Areas, would have minor adverse impacts on wildlife from the risk of birds, mammals, and fish ingesting residual chaff and flare components that reach the surface of the Gulf of Mexico. These impacts would be the same as described for Alternative 1. The effect of chaff and flare components during training operations in the Warning Areas on federally listed marine mammals and sea turtles is being programmatically evaluated under the MMPA and ESA, and no new effects on federally listed species from additional contract ADAIR operations would be anticipated.

### 3.6.9 No Action Alternative

Under the No Action Alternative, there would be no change in aircraft operations at Eglin AFB, ECP, or in the SUA. Therefore, there would be no impacts on biological resources under the No Action Alternative.

### 3.6.10 Reasonably Foreseeable Future Actions and Other Environmental Considerations

The proposed beddown of four F-35A Developmental Testing Aircraft along with the Proposed Action has the potential for minor cumulative impacts on wildlife from increased aircraft operations and associated noise and risk of BASH at the Eglin AFB airfield as well as noise from increased aircraft operations in the SUA.

## 3.7 LAND USE

### 3.7.1 Existing Conditions – Eglin Air Force Base

The definition of the resource, setting, and existing conditions for land use at Eglin AFB were described in the March 2022 EA and are incorporated by reference. Eglin AFB is located in the Florida Panhandle and situated among three counties – Santa Rosa, Okaloosa, and Walton, with the majority of the base population residing in Okaloosa County. The installation encompasses about 465,396 acres (ac) with two active runways, one at Eglin Main and another at Duke Field.

Eglin AFB is divided into nine planning districts with an additional seven districts located across the entire installation. Site-specific future planning by district is outlined in Area Development Plans. There are 13 on-base land use categories within the published Eglin AFB airfield noise contours (Eglin AFB, 2017b). The largest land uses are categorized as open space/buffer zone and airfield clearance. Aircraft operations and maintenance, administrative buildings, industrial use, and undefined use areas comprise most of the remaining land uses. Most of the on-base housing land use is located within the 65- to 70-dBA DNL noise contour with additional areas located within the 70- and 75-dBA DNL contours. A small portion of on-base housing is located within the 75- to 80-dBA DNL noise contours. The great majority of the off-base land use within the noise contours, is open water. Of the remaining off-base land use within the noise contours, a small percent is categorized as single-family, single- or multifamily, multifamily, and school. The analysis included in this EA focuses on off-base residential land use within the noise contours.

### 3.7.2 Existing Conditions – Northwest Florida Beaches International Airport

The definition of the resource, setting, and existing conditions for land use at ECP were described in the March 2022 EA and are incorporated by reference. Located 18 mi northwest of Panama City, ECP is a public-use airport in Bay County, Florida. The airport is owned by the Panama City-Bay County Airport and Industrial District and is north of Panama City Beach near West Bay (see **Figure 1-1**). Approximately 22,903 ac of ECP land use are within existing noise contours. Most land within the noise contours is categorized as Airport/Industrial, with Agricultural/Timberland followed by Conservation Habitation comprising the next largest land uses. Most of the area within published noise contours is off ECP property; it is primarily categorized as Agriculture/Timberland. The remaining land use includes Business Center, Conservation Habitation, and West Bay Preservation. There are no residential land use categories and no incompatible land use within the ECP noise contours. All land within the ECP Runway Protection Zone is located on airport property.

### 3.7.3 Environmental Consequences Evaluation Criteria

Potential impacts on land use are based on the level of land use sensitivity in areas potentially affected by the Proposed Action and alternatives as well as compatibility of those actions with existing conditions. In general, a land use impact would be adverse if it met one of the following criteria:

- inconsistency or noncompliance with existing land use plans or policies;
- precluded the viability of existing land use;
- precluded continued use or occupation of an area;
- incompatibility with adjacent land use to the extent that public health or safety is threatened; or conflict with planning criteria established to ensure the safety and protection of human life and property.

### 3.7.4 Environmental Consequences – Alternative 1: Contract ADAIR with F-22 FTU (Eglin)

The Proposed Action under the High, Medium, and Low Noise Scenarios at Eglin AFB would result in an overall increase of newly exposed areas affected by noise levels between the 65- and 70-dBA DNL. Specifically, the amount of land zoned for residential use within the 65- and the 70-dBA DNL would also likely increase (**Table 3-50**), potentially rendering some land area incompatible for residential use. Also, refer to **Section 3.3** describing the proposed increase in day-night average sound level area potentially affected on and surrounding Eglin AFB by Noise Scenario. A number of people would be affected by the noise increase under all Noise Scenarios (**Table 3-51**). All Noise Scenarios represent a moderate impact on individuals under the greater than 80 dBA DNL contour.

**Table 3-49**  
**Potential Temporary Increase in Estimated Residential Area within the Noise Contours**  
**Surrounding Eglin Air Force Base under Alternative 1**

Noise Contour (dBA DNL)	Calculated Baseline (acres) <sup>1</sup>	Residential Total (acres) <sup>1</sup>	Potential Increase (acres)
<b>High Noise Scenario</b>			
>65	161.6	189.1	27.5
>70	14.3	77.6	63.3
>75	0	0.0	0.0
>80	0	0.0	0.0
>85	0	0.0	0.0
<b>Medium Noise Scenario</b>			
>65	148.3	197.5	49.2
>70	8.7	51.8	43.1
>75	0	0.0	0.0
>80	0	0.0	0.0
>85	0	0.0	0.0

**Table 3-49**  
**Potential Temporary Increase in Estimated Residential Area within the Noise Contours**  
**Surrounding Eglin Air Force Base under Alternative 1**

Noise Contour (dBA DNL)	Calculated Baseline (acres) <sup>1</sup>	Residential Total (acres) <sup>1</sup>	Potential Increase (acres)
<b>Low Noise Scenario</b>			
>65	148.5	197.6	49.0
>70	8.8	51.7	42.9
>75	0	0.0	0.0
>80	0	0.0	0.0
>85	0	0.0	0.0

Notes:

<sup>1</sup> Baseline calculated from conditions described in March 2022 EA plus the potential increase in residential acres modeled under the High, Medium, and Low Noise Scenarios.

dBA = A-weighted decibels; DNL = day-night average sound level

**Table 3-50**  
**Temporary Increase in Estimated Population Potentially Affected on and Surrounding Eglin Air Force Base under Alternative 1**

Noise Contour (dBA DNL)	Calculated Baseline <sup>1</sup>	Change	Percent Increase
<b>High Noise Scenario</b>			
>65	1,407	118	8%
>70	1,268	126	10%
>75	878	138	16%
>80	413	742	59%
>85	317	127	34%
<b>Medium Noise Scenario</b>			
>65	1,379	109	8%
>70	1,225	144	12%
>75	843	147	17%
>80	382	242	63%
>85	365	120	36%
<b>Low Noise Scenario</b>			
>65	1,385	118	8%
>70	1,232	142	11%
>75	895	138	14%
>80	364	250	74%
>85	355	116	24%

Notes:

<sup>1</sup> Estimate of baseline population calculated from adding conditions described in March 2022 EA by the High, Medium, and Low Noise Scenarios to the projected increase in individuals (calculated from population density of acreage potentially impacted for this EA)

dBA = A-weighted decibels; DNL = day-night average sound level

The noise analysis conducted for this EA (see **Section 3.3.4** for greater detail regarding potential changes to the noise environment at Eglin AFB) reported short-term, noticeable noise increases at all eighteen POIs identified under the noise contours ranging from 2 to 4 dBA. Only one POI under each the High, Medium, and Low Noise Scenarios, Valparaiso Elementary School, would experience an increase resulting in movement from below the 65 decibels (dB) DNL contour to noise levels above the 65-dBA DNL threshold (from 64 dBA to 66 or 67 dBA depending on scenario).

Therefore, the increased noise under the High, Medium, and Low Noise Scenario in limited areas designated as residential land use surrounding Eglin AFB would potentially have a minor to moderate and short-term impact on land use.

### 3.7.5 Environmental Consequences – Alternative 2: Additional (Plus Up) Contract ADAIR with F-22 FTU (Eglin)

The Proposed Action under the High, Medium, and Low Noise Scenarios at Eglin AFB would result in an overall increase of newly exposed areas affected by noise levels between the 65- and 70-dBA DNL. Specifically, the amount of land zoned for residential use within the 65- and the 70-dBA DNL would also likely increase (**Table 3-52**), potentially rendering some land area incompatible for residential use.

A number of people would be affected by the noise increase under all Noise Scenarios (**Table 3-53**). All Noise Scenarios represent a temporary moderate impact to individuals under the greater than 80 dBA DNL contour.

**Table 3-51  
Potential Increase in Estimated Residential Area within the Noise Contours Surrounding Eglin Air Force Base under Alternative 2**

Noise Contour (dBA DNL)	Calculated Baseline <sup>1</sup> (acres)	Residential Total (acres)	Potential Increase (acres)
<b>High Noise Scenario</b>			
>65	161.6	188.5	26.9
>70	8.2	83.7	75.5
>75	0	0.0	0.0
>80	0	0.0	0.0
>85	0	0.0	0.0
<b>Medium Noise Scenario</b>			
>65	148.3	197.3	49.0
>70	8.7	52.4	43.7
>75	0	0.0	0.0
>80	0	0.0	0.0
>85	0	0.0	0.0
<b>Low Noise Scenario</b>			
>65	148.5	197.3	48.8
>70	8.8	59.3	50.5
>75	0	0.0	0.0
>80	0	0.0	0.0
>85	0	0.0	0.0

Notes:

<sup>1</sup> Baseline calculated from conditions described in March 2022 EA plus the increase in residential acres modeled under the High, Medium, and Low Noise Scenarios.

dBA = A-weighted decibels; DNL = day-night average sound level

**Table 3-52  
Increase in Estimated Population Potentially Affected on and Surrounding Eglin Air Force Base under Alternative 2**

Noise Contour (dBA DNL)	Calculated Baseline <sup>1</sup>	Change	Percent Increase
<b>High Noise Scenario</b>			
>65	1,407	128	9%
>70	1,268	134	11%
>75	878	144	16%

**Table 3-52**  
**Increase in Estimated Population Potentially Affected on and**  
**Surrounding Eglin Air Force Base under Alternative 2**

Noise Contour (dBA DNL)	Calculated Baseline <sup>1</sup>	Change	Percent Increase
>80	413	256	62%
>85	371	136	37%
<b>Medium Noise Scenario</b>			
>65	1,409	104	7%
>70	1,225	149	12%
>75	843	130	15%
>80	382	263	69%
>85	365	128	35%
<b>Low Noise Scenario</b>			
>65	1,385	113	8%
>70	1,232	127	10%
>75	895	128	15%
>80	364	280	77%
>85	355	133	37%

Notes:

<sup>1</sup> Estimate of baseline population calculated from adding conditions described in March 2022 EA under the High, Medium, and Low Noise Scenarios to the projected increase in individuals (calculated from population density of acreage potentially impacted for this EA) dBA = A-weighted decibels; DNL = day-night average sound level

The noise analysis conducted for this EA reported short-term, noticeable noise increases at all eighteen POIs identified under the noise contours ranging from 2 to 4 dBA. Only one POI under each the High, Medium, and Low Noise Scenarios, Valparaiso Elementary School, would experience an increase resulting in movement from below the 65 dBA DNL contour to noise levels above the 65-dBA DNL threshold (from 64 dBA to 66 or 67 dBA depending on scenario). Also refer to **Section 3.3.5** for greater detail regarding potential changes to the noise environment at Eglin AFB.

**Table 3-53**  
**Potential Increase in Estimated Residential Area within the Noise Contours Surrounding Eglin**  
**Air Force Base Under Alternative 3**

Noise Contour (dBA DNL)	Calculated Baseline <sup>1</sup>	Total (acres)	Potential Increase (acres)
<b>High Noise Scenario</b>			
>65	161.6	176.8	15.2
>70	14.3	33.2	18.9
>75	0	0.0	0.0
>80	0	0.0	0.0
>85	0	0.0	0.0
<b>Medium Noise Scenario</b>			
>65	148.3	152.2	3.9
>70	8.7	9.5	0.8
>75	0	0.0	0.0
>80	0	0.0	0.0
>85	0	0.0	0.0
<b>Low Noise Scenario</b>			
>65	148.5	150.8	2.3
>70	8.8	10.0	1.2
>75	0	0.0	0.0
>80	0	0.0	0.0



**Table 3-53**  
**Potential Increase in Estimated Residential Area within the Noise Contours Surrounding Eglin Air Force Base Under Alternative 3**

Noise Contour (dBA DNL)	Calculated Baseline <sup>1</sup>	Total (acres)	Potential Increase (acres)
>85	0	0.0	0.0

Notes:

<sup>1</sup> Baseline calculated from conditions described in March 2022 EA plus the increase in residential acres modeled under the High, Medium, and Low Noise Scenarios

dBA = A-weighted decibels; DNL = day-night average sound level

Therefore, the increased noise under the High, Medium, and Low Noise Scenarios in some areas designated as residential land use surrounding Eglin AFB would potentially have a minor to moderate and short-term impact on land use.

### 3.7.6 Environmental Consequences – Alternative 3: Additional (Plus Up) Contract ADAIR without F-22 FTU (Eglin)

The Proposed Action under the High, Medium, and Low Noise Scenarios at Eglin AFB would result in an overall increase of newly exposed areas affected by noise levels between the 65- and 70-dBA DNL. Specifically, the amount of land zoned for residential use within the 65- and the 70-dBA DNL would also potentially increase (**Table 3-54**), potentially rendering some land area incompatible for residential use.

A number of individuals would be affected by the noise increase under all Noise Scenarios (**Table 3-55**); however, the total number would be relatively small as is the percentage increase over projected current baseline conditions.

**Table 3-54**  
**Increase in Estimated Population Potentially Affected on and Surrounding Eglin Air Force Base under Alternative 3**

Noise Contour (dBA DNL)	Calculated Baseline <sup>1</sup>	Change	Percent Increase
<b>High Noise Scenario</b>			
>65	1,407	21	1%
>70	1,268	22	2%
>75	878	33	4%
>80	413	26	6%
>85	317	19	5%
<b>Medium Noise Scenario</b>			
>65	1,379	1	0%
>70	1,225	0	0%
>75	843	(21)	(3%)
>80	382	33	9%
>85	365	9	3%
<b>Low Noise Scenario</b>			
>65	1,385	4	3%
>70	1,232	(2)	(2%)
>75	895	(787)	(92%)
>80	364	23	6%
>85	355	16	4%

**Table 3-54**  
**Increase in Estimated Population Potentially Affected on and**  
**Surrounding Eglin Air Force Base under Alternative 3**

Noise Contour (dBA DNL)	Calculated Baseline <sup>1</sup>	Change	Percent Increase
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Notes:

<sup>1</sup> Estimate of baseline population calculated from adding conditions described in the March 2022 EA under the High, Medium, and Low Noise Scenarios to the projected increase in individuals (calculated from population density of acreage potentially impacted for this EA)

dBA = A-weighted decibels; DNL = day-night average sound level

The noise analysis conducted for this EA (see **Section 3.3** for greater detail regarding potential changes to the noise environment at Eglin AFB) reported unnoticeable increases in noise levels at representative POIs by an amount ranging from 0 to 1 dBA under the High, Medium, and Low Noise Scenarios. The increased DNL at these POIs and the surrounding areas would be long-term, unnoticeable, and not significant.

Therefore, the increased noise under the High, Medium, and Low Noise Scenarios in some limited areas designated as residential land use surrounding Eglin AFB would potentially have a minor and long-term impact on land use.

### **3.7.7 Environmental Consequences – Alternative 4: Additional (Plus Up) Contract ADAIR with F-22 FTU (ECP)**

Land use for ADAIR at ECP was previously analyzed under Alternative 3 in the March 2022 EA. It was determined there would be no change to land use patterns, land ownership, land management plans, or special use areas in the ROI as a result of the Proposed Action. The addition of 600 additional sorties, as analyzed in this EA, would not result in a meaningful increase of newly exposed area affected by noise levels between the 65- and 85-dBA DNL (see **Section 3.3** for greater detail regarding potential changes to the noise environment at ECP).

There would be no increase in noise in areas designated as residential land use under the High, Medium, or Low Noise Scenarios; however, people do reside in the area (within other land use designations). No designated residential land use areas would be affected by noise and only a relatively small number of people would be impacted by increased noise levels in some areas surrounding ECP (**Table 3-56**). Potential long-term, minor impacts would occur on the existing land use and population from changes to the noise under the High, Medium, and Low Noise Scenarios. Furthermore, **Section 3.3.9** indicates that at existing POIs, noise increases of 0 to 3 dBA would be expected; however, only one POI would experience an increase that would raise the overall noise environment above 65 dBA DNL (to 66 dBA DNL) under the High Noise Scenario.

**Table 3-55**  
**Increase in Estimated Population Potentially Affected Surrounding Northwest Florida Beaches**  
**International Airport under Alternative 4**

Noise Contour (dBA DNL)	Calculated Baseline <sup>1</sup>	Change	Percent Increase
<b>High Noise Scenario</b>			
>65	278	35	13%
>70	139	14	10%
>75	60	7	12%
>80	29	1	16%
>85	25	3	13%
<b>Medium Noise Scenario</b>			
>65	123	5	4%
>70	59	5	8%
>75	29	1	5%
>80	15	0	0%
>85	16	1	4%
<b>Low Noise Scenario</b>			
>65	110	6	5%
>70	64	4	6%
>75	30	1	4%
>80	16	0	0%
>85	18	1	6%

Notes:

<sup>1</sup> Estimate of baseline population calculated from adding conditions described in the March 2022 EA under the High, Medium, and Low Noise Scenarios to the projected increase in individuals (calculated from population density of acreage potentially impacted for this EA)

dBA = A-weighted decibels; DNL = day-night average sound level

### 3.7.8 No Action Alternative

Under the No Action Alternative, there would be no addition of contract ADAIR personnel or aircraft located at Eglin AFB or ECP. The F-22 FTU would not continue operations at Eglin AFB. Additional contract ADAIR operations and F-22 FTU operations would not occur in the SUA. No changes would occur to land use at Eglin AFB, ECP, or under the SUA.

### 3.7.9 Reasonably Foreseeable Future Actions and Other Environmental Considerations

The Proposed Action and alternatives, in addition to reasonably foreseeable future actions on and off Eglin AFB or ECP would not change land use or further change land use compatibility described above.

### 3.7.10 Coastal Zone Management Act

The Florida Coastal Management Program is a network of 24 Florida statutes administered by eight state agencies and five water districts. A consistency review of those Florida statutes is considered in the analysis of the Proposed Action. The Federal Consistency Determination for the March 2022 EA was routed through the Florida State Clearinghouse, which is administered by the FDEP Office of Intergovernmental Programs for review. The Florida State Clearinghouse determined a Federal Consistency Determination was not required for this EA. Correspondence is included in **Appendix A**.

## 3.8 SOCIOECONOMICS – INCOME AND EMPLOYMENT

The definition of the resource was described in the March 2022 EA and is incorporated by reference.

### **3.8.1 Existing Conditions – Eglin Air Force Base**

The unemployment rate for Okaloosa, Santa Rosa, and Walton Counties was 3.3 percent, 3.5 percent, and 3.5 percent, respectively in 2021 (Bureau of Labor Statistics, 2022a). These were lower than the 2021 unemployment rate for Florida of 4.6 percent and for the US of 5.3 percent (US Bureau of Labor Statistics, 2022b). The median household income in 2020 was \$64,373, \$70,663, and \$67,390 for Okaloosa, Santa Rosa, and Walton Counties, respectively, which were all higher than that for Florida (\$57,703) and similar to or slightly higher than that for the US (\$64,994). The rate of persons in poverty in 2020 was 9.6 percent, 9.4 percent, and 11.4 percent for Okaloosa, Santa Rosa, and Walton Counties, respectively, which were all less than the rate of persons in poverty in Florida (13.1 percent) and in the US (11.6 percent) (US Census Bureau, 2022).

Eglin AFB supports an estimated workforce of 18,000 persons and approximately 46,770 retirees and dependents with an overall economic impact of \$7.5 billion annually (Eglin AFB, 2017a).

### **3.8.2 Existing Conditions – Northwest Florida Beaches International Airport**

The unemployment rate for Bay County was 3.9 percent in 2021 (US Bureau of Labor Statistics, 2022a). This was lower than the 2021 unemployment rate for Florida of 4.6 percent and for the US of 5.3 percent (US Bureau of Labor Statistics, 2022b). The median household income in 2020 was \$56,483 for Bay County, which was lower than that for Florida (\$57,703) and for the US (\$64,994). The rate of persons in poverty in 2020 was 12.4 percent for Bay County, which was lower than the rate of persons in poverty in Florida (13.1 percent) but higher than the rate of persons in poverty in the US (11.6 percent) (US Census Bureau, 2022).

ECP is a commercial services airport. The total economic impact of ECP in 2017 was \$771.9 million, which included a total payroll of \$235.2 million. ECP employed 7,602 people in 2017 (Florida Department of Transportation, 2019).

### **3.8.3 Environmental Consequences Evaluation Criteria**

Consequences to socioeconomic resources were assessed in terms of the potential impacts on the local economy from proposed contract ADAIR and the potential continuation of the F-22 FTU training operations at Eglin AFB. The level of impacts associated with the proposed contract ADAIR and F-22 FTU expenditures is assessed in terms of direct impacts on the local economy and related impacts on other socioeconomic resources such as employment. The magnitude of potential impacts can vary greatly, depending on the location of an action. For example, implementation of an action that creates 10 employment positions might be unnoticed in an urban area but might have significant impacts in a rural region. In addition, if potential socioeconomic changes resulting from other factors were to result in substantial shifts in population trends or in adverse impacts on regional spending and earning patterns, they may be considered adverse.

All potential impacts on socioeconomics – income and employment would be limited to the communities surrounding the airport.

### **3.8.4 Environmental Consequences – Alternative 1: Contract ADAIR with F-22 FTU (Eglin)**

#### **3.8.4.1 Eglin Air Force Base**

The impacts on socioeconomics from contract ADAIR at Eglin AFB was provided in the March 2022 EA and is incorporated by reference. The F-22 FTU at Eglin AFB is supported by approximately 760 personnel: 660 military, 75 civilian and 25 contract personnel. It is estimated that those 760 personnel have 1,672 dependents. Therefore, approximately 2,432 persons are in the Eglin AFB surrounding area supporting the F-22 FTU (Air Force, 2021). Under Alternative 1, the F-22 FTU maintenance personnel and pilots would

continue training operations temporarily at Eglin AFB and would represent a substantial portion of the total employment associated with Eglin AFB, which supports a workforce of approximately 18,000 people and in Okaloosa, Santa Rosa, and Walton Counties with a combined population of approximately 487,322 (US Census Bureau, 2022).

As described in **Section 3.2**, there would be a temporary increase in noise at sensitive receptors in the vicinity of Eglin AFB. One POI, Eglin Elementary School, would experience a temporary increase in DNL greater than 3 dBA under the High Noise Scenario, and two POIs, Eglin Housing (Ben's Lake) and Niceville Community Church, would experience a temporary increase in DNL greater than 3 dBA under the Medium Noise Scenario, and three POIs, Eglin Housing (Ben's Lake), Niceville Community Church, and Eglin Hospital, would experience a temporary increase in DNL greater than 3 dBA under the Low Noise Scenario with the continued F-22 FTU training operations. There would be a substantial temporary increase in areas zoned for residential (up to an additional 91 ac) and commercial (up to an additional 31 ac) land uses subject to greater than 65-dBA DNL under Alternative 1. The temporary increase in noise at these commercial and residential properties would lead to a short-term reduction in the desirability to live and work at these properties. Therefore, there would be short-term moderate adverse impacts on commercial and residential properties until the anticipated 2023 F-22 FTU aircraft departure from Eglin AFB. Regionally, the Fort Walton Beach Metropolitan Statistical Area (which includes the communities surrounding Eglin AFB) has 98,437 residential properties and 5,003 commercial properties (GeoData Plus, 2022) and the increased noise would impact a very small number of these properties. Therefore, there would be moderate short-term adverse impacts on income and employment from noise under the Alternative 1.

### **3.8.5 *Environmental Consequences – Alternative 2: Additional (Plus Up) Contract ADAIR with F-22 FTU (Eglin)***

#### **3.8.5.1 Eglin Air Force Base**

An additional 19 maintenance personnel and 4 pilots supporting contract ADAIR would not represent a substantial change to the Eglin AFB workforce, which includes approximately 18,000 personnel, nor would it represent a substantial change in the regional workforce of Okaloosa, Santa Rosa, and Walton Counties, with a combined population of approximately 487,322 (US Census Bureau, 2022). The continued F-22 FTU training operations at Eglin AFB would impact income and employment as described for Alternative 1.

It is estimated that the maximum contracted value for ADAIR training would be \$30,000 per flight hour (Headquarters ACC Acquisition Management and Integration Center, 2018), though most likely between \$8,500 and \$15,000 based on the technical solution sought. This would therefore potentially increase annual expenditures in the region of up to approximately \$12 million to support the four contracted fighter aircraft flying 600 annual sorties from Eglin AFB. These expenditures would be in the form of purchasing fuel, equipment, and materials to support the contract ADAIR sorties as well as the employment of 23 highly skilled contracted personnel (maintainers and pilots). These increased expenditures would provide a long-term, potentially minor, beneficial impact on the ROI through increased payroll tax revenue and the purchase of additional equipment, materials, and fuel needed for aircraft operations and maintenance under Alternative 1.

As described in **Section 3.2**, regardless of the selected aircraft, there would be increased noise at sensitive receptors in the vicinity of Eglin AFB. Two POIs, Eglin Elementary School and Eglin Hospital, would experience a temporary increase in DNL greater than 3 dBA under the High Noise Scenario, two POIs, Niceville Community Church and Eglin Housing (Ben's Lake), would experience a temporary increase in DNL greater than 3 dBA under the Medium Noise Scenario, and three POIs, Eglin Housing (Ben's Lake), Eglin Hospital, and Niceville Community Church, would experience a temporary increase in DNL greater than 3 dBA under the Low Noise Scenario with the continued F-22 FTU training operations. There would be a substantial temporary increase in areas zoned for residential (up to an additional 95 ac) and commercial (up to an additional 33 ac) land uses subject to greater than 65-dBA DNL under Alternative 2, but would decrease in area of impacts to be the same as described for Alternative 3 following the departure of the F-22 FTU aircraft. The temporary increase in noise at these commercial and residential properties

would lead to a short-term reduction in the desirability to live and work at these properties. Therefore, there would be short-term moderate adverse impacts on commercial and residential properties until the anticipated 2023 F-22 FTU aircraft departure from Eglin AFB. Regionally, the Fort Walton Beach Metropolitan Statistical Area (which includes the communities surrounding Eglin AFB) has 98,437 residential properties and 5,003 commercial properties (GeoData Plus, 2022) and the increased noise would impact a very small number of these properties. Therefore, there would be moderate short-term adverse impacts on income and employment from noise under the Alternative 2.

### **3.8.6 *Environmental Consequences – Alternative 3: Additional (Plus Up) Contract ADAIR without F-22 FTU (Eglin)***

#### **3.8.6.1 Eglin Air Force Base**

An additional 23 contractor personnel supporting contract ADAIR would not represent a substantial change to the Eglin AFB workforce, which includes approximately 18,000 personnel, nor to the regional workforce of Okaloosa, Santa Rosa, and Walton Counties, with a combined population of approximately 487,322 (US Census Bureau, 2022). The departure of the F-22 FTU from Eglin AFB and the associated impacts on socioeconomics were described in the *Final Environmental Impact Statement Fifth Generation Formal Training Unit Optimization* (DAF, 2021) and are incorporated by reference.

Long-term, potentially minor, beneficial impacts would occur from increased expenditures in the ROI associated with the contract ADAIR operations and maintenance as described for Alternative 2.

As described in **Section 3.2**, regardless of the selected aircraft, there would be no increased noise at sensitive receptors in the vicinity of Eglin AFB. No POIs would experience an increase in noise greater than a 3-dBA DNL from the continued F-22 FTU training operations and additional contract ADAIR sorties under any of the three Noise Scenarios. There would not be a substantial increase in areas zoned for residential and commercial land uses subject to greater than 65-dBA DNL under Alternative 3. Therefore, there would be no adverse impacts on income and employment from noise under the Alternative 3.

### **3.8.7 *Environmental Consequences – Alternative 4: Additional (Plus Up) Contract ADAIR with F-22 FTU (ECP)***

#### **3.8.7.1 Northwest Florida Beaches International Airport**

Impacts on employment and income in Bay County, Florida, from an additional 23 contractor personnel supporting contract ADAIR would not represent a substantial change to the Bay County regional workforce. Long-term, potentially minor, beneficial impacts would occur from increased expenditures in the ROI associated with the contract ADAIR operations and maintenance as described for Alternative 2.

As described in **Section 3.2**, regardless of the aircraft selected, there would be no increased noise at sensitive receptors above the 65-dBA DNL threshold of annoyance in the vicinity of ECP. No POIs would experience an increase in noise greater than a 3-dBA DNL and a DNL greater than 65 dBA from the additional sorties associated with the contract ADAIR aircraft under any of the three Noise Scenarios. In summary, there would be no substantial increase in the noise environment and, therefore, no adverse impacts under Alternative 4.

### **3.8.8 *No Action Alternative***

Under the No Action Alternative, the additional contract ADAIR operations would not occur, the F-22 FTU would depart Eglin AFB, and no additional expenditures would occur locally or regionally to support contracted aircraft or sorties. Under the No Action Alternative, there would be no change to socioeconomics in either Okaloosa County or Bay County, Florida.



### **3.8.9 *Reasonably Foreseeable Future Actions and Other Environmental Considerations***

The Proposed Action and reasonably foreseeable future actions at Eglin AFB or ECP would not result in an adverse impact on the Okaloosa County or Bay County regions' employment. Construction projects at the airports would result in short-term beneficial impacts as local sales and payroll taxes would increase. The Proposed Action would increase annual expenditures in the local economy by up to approximately \$48 million. This, along with other proposed projects at Eglin AFB or ECP, and by local governments, would create an economic boost to the northwest Florida region and would represent a long-term, minor, beneficial impact on the local economy of the airfield chosen.

## **3.9 ENVIRONMENTAL JUSTICE AND PROTECTION OF CHILDREN**

### **3.9.1 *Existing Conditions – Eglin Air Force Base***

An evaluation of minority and low-income populations in Okaloosa, Santa Rosa, and Walton Counties forms a baseline for the evaluation of the potential for disproportionate impacts on these populations from the Proposed Action at Eglin AFB (Air Force, 2020b). In 2021, Okaloosa, Santa Rosa, and Walton Counties had a substantially lower percentage of minorities (27.8 percent, 18.9 percent, and 16.2 percent, respectively) in the population compared to Florida (47.3 percent), and the US (40.7 percent) (US Census Bureau, 2022). A total of 10.2 percent, 6.4 percent, and 6.8 percent of the Okaloosa, Santa Rosa, and Walton Counties populations, respectively, identified as Hispanic or Latino, which are all much lower than the population of that minority group in Florida (26.8 percent), and the US (18.9 percent).

The rate of persons in poverty in 2020 was 9.6 percent, 9.4 percent, and 11.4 percent for Okaloosa, Santa Rosa, and Walton Counties, respectively, which were all less than the rate of persons in poverty in Florida (13.1 percent) and in the US (11.6 percent) (US Census Bureau, 2022).

The percent of the population in 2021 that were children in Santa Rosa and Walton Counties (21.9 percent and 20.6 percent, respectively) were slightly lower than the percent of youth population in the US (22.2 percent). The youth population in 2021 in Okaloosa County (22.5 percent) was slightly higher than the percent of youth population in the US. All three counties had a higher percent of the population that were children than in the state of Florida (19.7 percent) (US Census, Bureau 2022).

The percent of the population in 2021 that were elderly in Okaloosa and Santa Rosa Counties (16.4 percent and 16.4 percent, respectively) was slightly lower than the percent of the elderly population in the US (16.8 percent) but had a substantially lower percent of the population that was elderly than in the state of Florida (21.1 percent). In Walton County, 20.1 percent of the population was elderly, which was higher than that of the US but slightly lower than in the state of Florida (US Census, Bureau 2022).

### **3.9.2 *Existing Conditions – Northwest Florida Beaches International Airport***

An evaluation of minority and low-income populations in Bay County forms a baseline for the evaluation of the potential for disproportionate impacts on these populations from the Proposed Action at ECP (Air Force, 2020b). In 2021, Bay County had a substantially lower percentage of minorities (24.5 percent) in the population compared to Florida (47.3 percent), and the US (40.7 percent) (US Census Bureau, 2022). A total of 7.4 percent of the Bay County population identified as Hispanic or Latino, which is much lower than the population of that minority group in Florida (26.8 percent), and the US (18.9 percent).

The rate of persons in poverty in 2020 was 12.4 percent for Bay County, which was lower than the rate of persons in poverty in Florida (13.1 percent) but higher than the rate of persons in poverty in the US (11.6 percent) (US Census Bureau, 2022).

The percent of the population that were children in 2021 in Bay County (20.8 percent) was slightly higher than the youth population of Florida (19.7 percent) but slightly lower than the youth population of the US (22.2 percent). The percent of the population in Bay County that was elderly (18.5 percent) in 2021 was

greater than that of the US (16.8 percent) but less than that of the state of Florida (21.1 percent) (US Census Bureau, 2022).

### **3.9.3 *Environmental Consequences Evaluation Criteria***

Environmental justice analysis applies to potential disproportionate effects on minority, low-income, elderly, and youth populations. Environmental justice issues could occur if an adverse environmental or socioeconomic consequence to the human population fell disproportionately upon minority, low-income, elderly, or youth populations. Ethnicity and poverty status were examined and compared to state and national data to determine if these populations could be disproportionately affected by the alternatives.

All potential disproportionate impacts on populations would be limited to the communities surrounding the Eglin airfield or ECP. There would be no disproportionate impacts on populations in the GRASI ATCAA as contract ADAIR training in the GRASI ATCAA at and above 24,000 ft MSL would not alter the noise environment in these areas.

### **3.9.4 *Environmental Consequences – Alternative 1: Contract ADAIR with F-22 FTU (Eglin)***

#### **3.9.4.1 Eglin Air Force Base**

Under Alternative 1, personnel at Eglin AFB continuing to support the F-22 FTU and their dependents would not result in a disproportionate impact on minorities, low-income populations, and protection of the elderly and children, because there is adequate housing, community resources, and community services in the Northwest Florida area to continue to support these personnel. These personnel and their families continuing to support the F-22 FTU mission at Eglin AFB would not disproportionately affect the availability of these resources to minorities, low-income populations, elderly, or children.

There would be a moderate temporary increase in noise at select sensitive receptors in the vicinity of Eglin AFB with the F-22 FTU remaining at Eglin AFB under Alternative 1. Some POIs would experience a temporary increase in noise greater than a 3-dBA DNL from the continued F-22 FTU operations at the Eglin AFB airfield. The noise environment would increase 4-dBA DNL at Eglin Elementary School under the High Noise Scenario, and 3-dBA DNL under the Medium and Low Noise Scenarios, placing the school temporarily within the 70-dBA DNL noise contour under the High Noise Scenario. Other schools and child development centers proximate to Eglin AFB would experience a temporary 3-dBA DNL increase under all three Noise Scenarios. The increase in noise at these schools and child development centers under Alternative 1 would temporarily expose youth populations to additional health risks, as increased noise in the classroom, especially at or above 70-dBA DNL, would adversely impact student performance if the noise increases occurred during the school year, and would temporarily subject children to cognitive and academic risks (Diacio, 2014). Eglin Elementary School, however, is located on Eglin AFB and supports the educational needs of the Air Force community. The noise impact would be short-term and cease upon the departure of the F-22 FTU aircraft. No elderly care facilities were identified as POIs and there would be no increased health risks to elderly populations under Alternative 1.

The US Census Bureau Census Blocks are the best available data for assessment of impacts on minority populations (Air Force, 2020b). The Census Blocks located under the 65-dBA DNL and greater contours, were evaluated to determine if minority populations in these Census Blocks had a similar distribution to these same populations in the associated counties. A total of 18 percent of the population identified as a minority in the Census Blocks beneath the extended noise contours for Alternative 1 in 2021. The minority populations within these Census Blocks are substantially smaller than in the State of Florida and the US and are similar to the distribution of these same populations at the county level. Therefore, there would be no disproportionate impacts from noise on minority populations under Alternative 1.

The US Census Bureau Census Block Groups are the best available data for assessment of impacts on low-income populations (Air Force, 2020b). The Census Block Groups located under the 65-dBA DNL and

greater contours were evaluated to determine if low-income populations in these Block Groups had a similar distribution to these same populations in the associated counties. The low-income population in these Block Groups was 10.1 percent in 2021, which is similar to the low-income population of Okaloosa, Santa Rosa, and Walton Counties, and lower than the low-income populations of Florida and the US. Therefore, there would be no disproportionate impacts on low-income populations under Alternative 1.

### **3.9.5 *Environmental Consequences – Alternative 2: Additional (Plus Up) Contract ADAIR with F-22 FTU (Eglin)***

#### **3.9.5.1 Eglin Air Force Base**

Under Alternative 2, the increase in the number of personnel at Eglin AFB supporting the additional contract ADAIR sorties would not result in a disproportionate impact on minorities, low-income populations, and protection of the elderly and children, because there is adequate housing, community resources, and community services in the Northwest Florida area to support the increase in personnel. The 23 additional personnel and their families supporting the contract ADAIR requirement along with the personnel remaining at Eglin AFB supporting the F-22 FTU, and their dependents, would not disproportionately affect the availability of these resources to minorities, low-income populations, elderly, or children.

There would be a moderate temporary increase in noise at select sensitive receptors in the vicinity of Eglin AFB with the F-22 FTU remaining at Eglin AFB under Alternative 2 but would reduce to noise levels described by Alternative 3 following the departure of the F-22 FTU aircraft. Some POIs would experience a temporary increase in noise greater than a 3-dBA DNL from the additional contract ADAIR and the continued F-22 FTU operations at the Eglin AFB airfield. The noise environment would temporarily increase 4-dBA DNL at Eglin Elementary School under the High Noise Scenario, and 3-dBA DNL under the Medium and Low Noise Scenarios, placing the school within the 70-dBA DNL noise contour under the High Noise Scenario. Other schools and child development centers proximate to Eglin AFB would experience a 3-dBA DNL increase under all three Noise Scenarios. The temporary increase in noise at these schools and child development centers under Alternative 2 would expose youth populations to additional health risks, as increased noise in the classroom, especially at or above 70-dBA DNL, would adversely impact student performance if the noise increases occurred during the school year and would temporarily subject children to cognitive and academic risks (Diacio, 2014). Eglin Elementary School, however, is located on Eglin AFB and supports the educational needs of the Air Force community. The noise would be greatly reduced to a level equivalent to that described by Alternative 3 following the departure of the F-22 FTU aircraft. No elderly care facilities were identified as POIs and there would be no increased health risks to elderly populations under Alternative 2.

The US Census Bureau Census Blocks are the best available data for assessment of impacts on minority populations (Air Force, 2020b). The Census Blocks located under the 65-dBA DNL and greater contours, were evaluated to determine if minority populations in these Census Blocks had a similar distribution to these same populations in the associated counties. A total of 18 percent of the population identified as a minority in the Census Blocks beneath the extended noise contours for Alternative 2 in 2021. The minority populations within these Census Blocks are substantially smaller than in the State of Florida and the US and are similar to the distribution of these same populations at the county level. Therefore, there would be no disproportionate impacts from noise on minority populations under Alternative 2.

The US Census Bureau Census Block Groups are the best available data for assessment of impacts on low-income populations (Air Force, 2020b). The Census Block Groups located under the 65-dBA DNL and greater contours were evaluated to determine if low-income populations in these Block Groups had a similar distribution to these same populations in the associated counties. The low-income population in these Block Groups was 10.1 percent in 2021, which is similar to the low-income population of Okaloosa, Santa Rosa, and Walton Counties, and lower than the low-income populations of Florida and the US. Therefore, there would be no disproportionate impacts on low-income populations under Alternative 2.

### **3.9.6 *Environmental Consequences – Alternative 3: Additional (Plus Up) Contract ADAIR without F-22 FTU (Eglin)***

#### **3.9.6.1 Eglin Air Force Base**

Under Alternative 3, the additional 23 personnel at Eglin AFB supporting the additional contract ADAIR sorties would not result in a disproportionate impact on minorities, low-income populations, and protection of the elderly and children, because there is adequate housing, community resources, and community services in the Northwest Florida area to support the increase in personnel. The 23 additional personnel and their families supporting the contract ADAIR requirement would not disproportionately affect the availability of these resources to minorities, low-income populations, elderly, or children.

There would be no substantial increase in noise at sensitive receptors in the vicinity of Eglin AFB under any of the three Noise Scenarios. No POIs would experience an increase in noise greater than a 3-dBA DNL from the additional sorties associated with the additional contract ADAIR aircraft under any of the three Noise Scenarios. The noise environment would remain unchanged at all schools and childcare facilities proximate to Eglin AFB under all three Noise Scenarios with the additional contract ADAIR sorties at Eglin AFB. No elderly care facilities were identified as POIs in the ROI and no schools or childcare facilities would experience a substantial noise increase. Because there would be no substantial change in the noise environment under all three Noise Scenarios, there would be no disproportionate impacts from noise on minority, low-income, elderly, or youth populations under the Alternative 3.

### **3.9.7 *Environmental Consequences – Alternative 4: Additional (Plus Up) Contract ADAIR (ECP) with F-22 FTU***

#### **3.9.7.1 Northwest Florida Beaches International Airport**

Under Alternative 4, the increase in the number of personnel working at ECP supporting the additional contract ADAIR sorties would not result in a disproportionate impact on minorities, low-income populations, and protection of the elderly and children, because there is adequate housing, community resources, and community services in Bay County and the Northwest Florida area to support the increase in personnel. The 23 additional personnel and their families supporting the contract ADAIR requirement at ECP along with the personnel remaining at Eglin AFB supporting the F-22 FTU, and their dependents, would not disproportionately affect the availability of these resources to minorities, low-income populations, elderly, or children.

There would be no substantial increase in noise at sensitive receptors in the vicinity of ECP under any of the three Noise Scenarios. No POIs would experience an increase in noise greater than a 3-dBA DNL from the additional sorties associated with the additional contract ADAIR aircraft operating from ECP under any of the three Noise Scenarios. No schools, childcare facilities, or elderly care facilities were identified as POIs in the ROI. Because there would not be a greater than 3-dBA DNL increase under all three Noise Scenarios, increased noise from the additional contract ADAIR at ECP under Alternative 4 and would not affect any populations. Therefore, there would be no disproportionate impacts from noise on minority, low-income, elderly, or youth populations under the Alternative 4.

### **3.9.8 *No Action Alternative***

Under the No Action Alternative, there would be no disproportionate impacts on minority or low-income communities, elderly populations, or children from regional expenditures to support additional contracted aircraft, additional personnel, or from the increased training sorties. Under the No Action Alternative, there would be no Environmental Justice or Protection of Children impacts.

### **3.9.9 *Reasonably Foreseeable Future Actions and Other Environmental Considerations***

There are no reasonably foreseeable projects, on and off Eglin AFB or the civil airports, that in combination with the Proposed Action would have a disproportionate impact on minority and low-income populations, the elderly, or children.

## **3.10 CULTURAL RESOURCES**

### **3.10.1 *Existing Conditions – Eglin Air Force Base***

The definition of the resource and existing conditions for cultural resources were described in the March 2022 EA. For reference, there are no NRHP-eligible archaeological sites, Traditional Cultural Properties or Sacred Sites, or architectural resources in the Area of Potential Effects (APE).

### **3.10.2 *Existing Conditions – Northwest Florida Beaches International Airport***

The definition of the resource and existing conditions for cultural resources were described in the March 2022 EA. For reference, there are no NRHP-eligible archaeological sites, Traditional Cultural Properties or Sacred Sites, or architectural resources in the APE. ECP is a modern airport, constructed in the twenty-first century. A review of the Florida Master Site File, including archaeological sites, historical structures, historical cemeteries, historical bridges, and historical districts (e.g., landscapes and linear features) was conducted for this EA. No cultural resources have been recorded within the boundary of ECP. No traditional cultural properties or Sacred Sites were identified as a result of tribal consultation.

### **3.10.3 *Existing Conditions – Special Use Airspace***

The definition of the resource and existing conditions for cultural resources were described in the March 2022 EA. For reference, based on the nature of the Proposed Action, potentially unrecorded or unevaluated archaeological and architectural resources under the airspace are not described. No known traditional cultural properties have been identified in the APE. There are 90 NRHP-eligible architectural resources in the APE as well as the potential for underwater archaeological resources.

### **3.10.4 *Environmental Consequences Evaluation Criteria***

Adverse impacts on cultural resources might include physically altering, damaging, or destroying all or part of a resource or altering characteristics of the resource that make it eligible for listing in the NRHP. Those effects can include introducing visual or audible elements that are out of character with the property or its setting; neglecting the resource to the extent that it deteriorates or is destroyed; or the sale, transfer, or lease of the property out of agency ownership or control without adequate enforceable restrictions or conditions to ensure preservation of the property's historic significance. For the purposes of this EA, an effect is considered adverse if it alters the integrity of a NRHP-listed, eligible, or potentially eligible resource or if it has the potential to adversely affect Traditional Cultural Properties and the practices associated with the property.

### **3.10.5 *Environmental Consequences – Alternative 1: Contract ADAIR with F-22 FTU (Eglin)***

#### **3.10.5.1 Eglin Air Force Base**

No ground disturbance would take place as part of the Proposed Action; therefore, no archaeological resources would be disturbed or otherwise affected. No Traditional Cultural Properties or Sacred Sites have been identified at Eglin AFB. No significant buildings greater than 50 years old are included in the APE for use as part of the Proposed Action. Because no new construction is being proposed, there is no potential for visual impacts to the Strategic Air Command (SAC) Alert Historic District. Therefore, per guidance set forth in 36 CFR 800.4(d)(1), it has been determined that no historic properties would be affected by

implementation of the Proposed Action under Alternative 1. The Florida SHPO concurred with this determination.

#### **3.10.5.2 Special Use Airspace**

There are 90 NRHP-listed architectural resources recorded beneath the SUA. Noise analysis of the High, Medium, and Low Noise Scenarios for implementing contract ADAIR in the SUA has been shown to include long-term, noticeable noise increases eighteen POIs analyzed of between 2 and 4 dBA. While noticeable to the human ear, these increases remain well below the 85 dBA DNL threshold above which noise is considered harmful to structures. Therefore, per guidance set forth in 36 CFR 800.4(d)(1), it has been determined that no historic properties would be affected by implementation of the Proposed Action under Alternative 1. The Florida SHPO concurred with this determination.

### ***3.10.6 Environmental Consequences – Alternative 2: Additional (Plus Up) Contract ADAIR with F-22 FTU (Eglin)***

#### **3.10.6.1 Eglin Air Force Base**

Potential impacts to historic properties at Eglin AFB under Alternative 2 would be the same as those outlined for Alternative 1. Therefore, per guidance set forth in 36 CFR 800.4(d)(1), it has been determined that no historic properties would be affected by implementation of the Proposed Action under Alternative 2. The Florida SHPO concurred with this determination.

#### **3.10.6.2 Special Use Airspace**

Potential impacts to historic properties under the SUA under Alternative 2 would be the same as those outlined for Alternative 1. Therefore, per guidance set forth in 36 CFR 800.4(d)(1), it has been determined that no historic properties would be affected by implementation of the Proposed Action under Alternative 2. The Florida SHPO concurred with this determination.

### ***3.10.7 Environmental Consequences – Alternative 3: Additional (Plus Up) Contract ADAIR without F-22 FTU (Eglin)***

#### **3.10.7.1 Eglin Air Force Base**

Potential impacts to historic properties at Eglin AFB under Alternative 3 would be the same as those outlined for Alternative 1. Therefore, per guidance set forth in 36 CFR 800.4(d)(1), it has been determined that no historic properties would be affected by implementation of the Proposed Action under Alternative 3. The Florida SHPO concurred with this determination.

#### **3.10.7.2 Special Use Airspace**

Potential impacts to historic properties under the SUA under Alternative 3 would be the same as those outlined for Alternative 1. Therefore, per guidance set forth in 36 CFR 800.4(d)(1), it has been determined that no historic properties would be affected by implementation of the Proposed Action under Alternative 3. The Florida SHPO concurred with this determination.

### ***3.10.8 Environmental Consequences – Alternative 4: Additional (Plus Up) Contract ADAIR with F-22 FTU (ECP)***

#### **3.10.8.1 Northwest Florida Beaches International Airport**

Because ECP is a modern airport and no historic properties are located within the boundary of ECP, per guidance set forth in 36 CFR 800.4(d)(1), it has been determined that no historic properties would be



affected by implementation of the Proposed Action under Alternative 4. The Florida SHPO concurred with this determination.

### 3.10.8.2 Special Use Airspace

Potential impacts to historic properties under the SUA under Alternative 4 would be the same as those outlined for Alternative 1. Therefore, per guidance set forth in 36 CFR 800.4(d)(1), it has been determined that no historic properties would be affected by implementation of the Proposed Action under Alternative 4. The Florida SHPO concurred with this determination.

### 3.10.9 No Action Alternative

Under the No Action Alternative, there would be no additional contract ADAIR personnel or aircraft located at Eglin AFB or ECP or continued F-22 FTU at Eglin AFB. Additional ADAIR operations would not occur in the SUA. No changes would occur to cultural resources or historic properties, including significant archaeological resources, architectural resources, or Traditional Cultural Properties, at Eglin AFB, ECP, or under the SUA.

### 3.10.10 Reasonably Foreseeable Future Actions and Other Environmental Considerations

Assessing impacts to historic properties is in general a binary exercise. A Proposed Action will either be determined to have the potential to impact the integrity of a resource, and thus its ability to convey its significance (i.e., an adverse effect) or it will not. The Proposed Action and reasonably foreseeable future actions on and/or adjacent to Eglin AFB or ECP would not result in incremental impacts on cultural resources or historic properties, including significant archaeological resources, architectural resources, or Traditional Cultural Properties.

## 3.11 HAZARDOUS MATERIALS AND WASTES, ENVIRONMENTAL RESTORATION PROGRAM SITES, AND TOXIC SUBSTANCES

### 3.11.1 Existing Conditions – Eglin Air Force Base

The definition of the resource and existing conditions for hazardous materials (HAZMAT) and waste, Environmental Restoration Program Sites, and toxic substances are the same as described in the March 2022 EA and are incorporated herein by reference. Additional contract ADAIR aircraft and continued F-22 FTU operations at Eglin AFB have the potential to utilize HAZMAT and generate hazardous wastes. No additional buildings or facilities are proposed for use; therefore, Environmental Restoration Program Sites, asbestos containing materials, lead-based paint, radon, and polychlorinated biphenyls (PCB) would not be affected by the Proposed Action and are not considered further.

Hazardous and toxic material procurements at Eglin AFB are approved and tracked by the 96th Civil Engineer Group/Environmental Compliance (96 CEG/CEIEC) which has overall management responsibility of the installation environmental program (Eglin AFB, 2020). The 96 CEG/CEIEC maintains the *Hazardous Waste Management Plan* (Eglin AFB, 2020) as directed by Air Force Manual (AFMAN) 32-7002, *Environmental Compliance and Pollution Prevention*, and complies with 40 CFR Parts 260 to 272. The *Hazardous Waste Management Plan* establishes the procedures to comply with applicable federal, state, and local standards for solid waste and hazardous waste management. The plan outlines procedures for transport, storage, and disposal of hazardous wastes. All HAZMAT at Eglin AFB are managed by the 96 CEG/CEIEC and disposed by Air Force Civil Engineer Center contractors. The Enterprise Environmental, Safety, and Occupational Health Management Information System tracks acquisition and inventory control of HAZMAT. All HAZMAT and petroleum products such as fuels, flammable solvents, paints, corrosives, pesticides, deicing fluid, refrigerants, and cleaners are used throughout Eglin AFB for various functions including aircraft maintenance; aircraft ground equipment maintenance; and ground vehicles, communications infrastructure, and facilities maintenance.

Hazardous wastes generated at Eglin AFB include waste flammable solvents, contaminated fuels and lubricants, paint/coating, stripping chemicals, waste oils, waste paint-related materials, mixed-solid waste, and other miscellaneous wastes. Eglin AFB generates varying amounts of hazardous waste as a Large Quantity Generator as defined by the USEPA (40 CFR § 260.10). Eglin AFB operates multiple satellite accumulation points, where up to 55 gallons (gal) of “total regulated hazardous wastes” or up to 1 quart of “acutely hazardous wastes” are accumulated. Eglin AFB operates one 90-day accumulation site, where hazardous waste accumulates before being transported off-installation for ultimate disposal (Eglin AFB, 2020).

Storage tanks at Eglin AFB contain jet fuel, diesel fuel, fuel oil, used cooking oil, mineral oil for transformers, used oil, and unleaded gasoline. The primary oil management activity at Eglin AFB is the receipt, storage, and transfer of jet fuel for use in military aircraft. The total oil storage capacity at Eglin AFB is approximately 7 million gal (Eglin AFB, 2011). The Eglin AFB *Spill Prevention, Control, and Countermeasures Plan* (Eglin AFB, 2011) provides guidance for the prevention and management of spills from aboveground storage tanks and underground storage tanks at Eglin AFB.

### ***3.11.2 Existing Conditions – Northwest Florida Beaches International Airport***

The existing conditions for HAZMAT and waste at ECP are the same as described in the March 2022 EA and are incorporated herein by reference. Sheltair Aviation is the Fixed Base Operator at ECP responsible for fueling of aircraft and aircraft maintenance and repair. ECP requires that all commercial aviation operators comply with all applicable local, state, and federal environmental regulations including requirements for underground storage tanks, disposal of waste oil and other hazardous substances, and the refueling of aircraft and vehicles. Prior to the beginning of any new commercial operation at ECP, commercial aviation operators are required to submit and have approved by the Airport Authority a HAZMAT handling, storage, and disposal plan (ECP, 2011).

### ***3.11.3 Environmental Consequences Evaluation Criteria***

Impacts on HAZMAT management would be considered adverse if the federal action resulted in noncompliance with applicable federal, state, and local regulations or increased the amounts generated or procured beyond a selected airport’s waste management procedures and capacities.

### ***3.11.4 Environmental Consequences – Alternative 1: Contract ADAIR with F-22 FTU (Eglin)***

#### ***3.11.4.1 Eglin Air Force Base***

Under Alternative 1, continued maintenance and operations of the F-22 FTU aircraft at Eglin AFB would contribute to the volume of HAZMAT stored and used at the Eglin AFB and the volume of hazardous wastes generated. An emergency fuel dump by F-22 or T-38 aircraft could occur in the SUA; however, due to the infrequent nature of emergency fuel dumps, the temporary nature of the F-22 FTU at Eglin AFB, as well as in-place safety precautions, these emergency procedures would not likely have adverse effects.

#### **Hazardous Materials and Wastes**

Continued F-22 FTU aircraft operations and maintenance would contribute to the volume of HAZMAT such as oil, Jet-A fuel, hydrazine, hydraulic fluid, solvents, sealants, and antifreeze at Eglin AFB. The HAZMAT required for F-22 FTU aircraft would be procured, controlled, and tracked through the Enterprise Environmental, Safety, and Occupational Health Management Information System, following established Eglin AFB procedures. This would ensure that only HAZMAT needed for continued F-22 FTU operations and maintenance at the smallest quantities would be used and that all the HAZMAT at Eglin AFB would be properly tracked.

Hazardous wastes generated by continued F-22 FTU operations and maintenance at Eglin AFB would be properly handled, stored, and disposed of following the Eglin AFB *Hazardous Waste Management Plan* (Eglin AFB, 2020). This ensures that hazardous waste would be managed according to all federal, state, and local laws and regulations. As such, there would be no impact from the continued procurement and use of HAZMAT or the storage and disposal of hazardous waste.

### **3.11.5 *Environmental Consequences – Alternative 2: Additional (Plus Up) Contract ADAIR with F-22 FTU (Eglin)***

#### **3.11.5.1 Eglin Air Force Base**

Under Alternative 2, maintenance and operations of four additional contract ADAIR aircraft and the continued temporary maintenance and operations of the F-22 FTU aircraft could contribute to the volume of HAZMAT stored and used at the Eglin AFB and the volume of hazardous wastes generated. An emergency fuel dump could occur in the SUA; however, due to the infrequent nature of emergency fuel dumps as well as in-place safety precautions, these emergency procedures would not likely have adverse effects.

#### **Hazardous Materials and Wastes**

Additional contract ADAIR and F-22 FTU aircraft operations and maintenance would contribute to the volume of HAZMAT such as oil, Jet-A fuel, hydrazine, hydraulic fluid, solvents, sealants, and antifreeze at Eglin AFB. The HAZMAT required for the contract ADAIR and F-22 FTU aircraft and used by contract personnel would be procured, controlled, and tracked through the Enterprise Environmental, Safety, and Occupational Health Management Information System, following established Eglin AFB procedures. This would ensure that only HAZMAT needed for operations and maintenance at the smallest quantities would be used and that all the HAZMAT used for contract ADAIR and the F-22 FTU at Eglin AFB would be properly tracked.

Hazardous wastes generated by additional contract ADAIR and continued F-22 FTU operations and maintenance at Eglin AFB would be properly handled, stored, and disposed of following the Eglin AFB *Hazardous Waste Management Plan* (Eglin AFB, 2020). This ensures that hazardous waste would be managed according to all federal, state, and local laws and regulations. As such, there would be no impact from the procurement and use of HAZMAT or the storage and disposal of hazardous waste.

### **3.11.6 *Environmental Consequences – Alternative 3: Additional (Plus Up) Contract ADAIR without F-22 FTU (Eglin)***

#### **3.11.6.1 Eglin Air Force Base**

Under Alternative 3, maintenance and operations of four additional contract ADAIR aircraft could contribute to the volume of HAZMAT stored and used at the Eglin AFB and the volume of hazardous wastes generated as described for the additional contract ADAIR aircraft under Alternative 2. An emergency fuel dump could occur in the SUA as described in Alternative 2; however, due to the infrequent nature of emergency fuel dumps as well as in-place safety precautions, these emergency procedures would not likely have adverse effects. The management and handling of HAZMAT and hazardous waste at Eglin AFB under Alternative 3 would be the same as described for the additional contract ADAIR aircraft under Alternative 2.

### **3.11.7 *Environmental Consequences – Alternative 4: Additional (Plus Up) Contract ADAIR with F-22 FTU (ECP)***

#### **3.11.7.1 Northwest Florida Beaches International Airport**

Under Alternative 4, maintenance and operations of four additional contract ADAIR aircraft could contribute to the volume of HAZMAT stored and used at the ECP and the volume of hazardous wastes generated. An

emergency fuel dump could occur in the SUA; however, due to the infrequent nature of emergency fuel dumps as well as in-place safety precautions, these emergency procedures would not likely have adverse effects.

### **Hazardous Materials and Wastes**

HAZMAT at ECP would be handled and tracked as required by the Airport Authority. There would be a minor impact from the increased HAZMAT use to support the additional contract ADAIR sorties at ECP. There would be no impact from the hazardous waste generation as all hazardous waste would be tracked and properly disposed of in accordance with federal, state, and local laws and regulations under the guidance of the Airport Authority and the Fixed Base Operator.

#### **3.11.8 *No Action Alternative***

Under the No Action Alternative, the additional contract ADAIR operations would not occur at Eglin AFB or ECP and there would be no continued F-22 FTU operations at Eglin AFB. As such, no increased quantity of HAZMAT would be used, and no increased quantity of hazardous wastes would be generated. Under the No Action Alternative, there would be no change to HAZMAT use or hazardous or special wastes generation and disposal.

#### **3.11.9 *Reasonably Foreseeable Future Actions and Other Environmental Considerations***

The Proposed Action, as well as reasonably foreseeable future actions on and off at Eglin AFB and ECP, are not anticipated to result in significant impacts on the management of HAZMAT and wastes. Storage and quantity of jet fuels, solvents, oil, and other HAZMAT supporting additional contract ADAIR operations would increase in addition to reasonably foreseeable future projects; however, this increase would result in a minor adverse effect. The Proposed Action, in addition to other reasonably foreseeable projects, would require compliance to hazardous waste management procedures in accordance with federal, state, and local regulations; therefore, no impacts on the storage and disposal of hazardous waste would be expected. No reasonably foreseeable significant adverse impacts on HAZMAT and wastes would be expected.

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**APPENDIX A  
INTERAGENCY AND INTERGOVERNMENTAL COORDINATION AND CONSULTATIONS**

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## **A.1 INTRODUCTION**

Scoping is an early and open process for developing the breadth of issues to be addressed in an Environmental Assessment (EA) and for identifying significant concerns related to an action. Per the requirements of Executive Order (EO) 12372, *Intergovernmental Review of Federal Programs*, as amended by EO 12416, federal, state, and local agencies with jurisdiction that could potentially be affected by the Proposed Action or alternatives were notified during the development of this EA.

The Intergovernmental Coordination Act and EO 12372 require federal agencies to cooperate with and consider state and local views in implementing a federal proposal. Through the coordination process, potentially interested and affected government agencies, government representatives, elected officials, and interested parties that could be affected by the Proposed Action and alternatives were notified during the development of this EA. The recipient mailing list and agency and intergovernmental coordination letters and responses are included in this Appendix.

### **A.1.1 Agency Consultations**

Implementation of the Proposed Action involves coordination with several organizations and agencies. Compliance with Section 7 of the Endangered Species Act (ESA) and implementing regulations (50 Code of Federal Regulations Part 402), requires communication with the United States (US) Fish and Wildlife Service and/or the National Marine Fisheries Service (NMFS) in cases where a federal action could affect listed threatened or endangered species, species proposed for listing, or candidates for listing. The primary focus of this consultation is to request a determination of whether any of these species occur in the proposal area. If any of these species is present, a determination would be made of any potential adverse impacts on the species. The Eglin Air Force Base (AFB) Natural Resources Office would determine whether any of these species occur in the Proposed Action area. If any of these species are present, the Eglin AFB Natural Resources Office would determine if the Proposed Action would have a potential negative effect on the species and if Section 7 consultation is required. Should no species protected by the Endangered Species Act be affected by the Proposed Action or alternatives, no additional consultation is required. In addition, the Marine Mammal Protection Act (16 US Code § 1371 *et seq.*) makes it illegal for a person to take a marine mammal, which includes significantly disturbing the habitat, unless it is done in accordance with regulations or a permit. The Magnuson-Stevens Fishery Conservation and Management Act (16 US Code § 1801) requires federal agencies to consult with the National Marine Fisheries Service when activities may have adverse impacts on designated Essential Fish Habitat. The Eglin AFB Natural Resources Office determined that there would be no effect from contract ADAIR and continued F-22 FTU training operations on federally listed terrestrial species. Marine Mammal Protection Act (MMPA) take authorization and ESA Section 7 consultation between the Air Force and the NMFS for training activities in the Warning Areas that include F-22 FTU operations have been reinstituted for the Eglin Gulf Test and Training Range. The effect of chaff and flare components during training operations in the Warning Areas on federally listed marine mammals and sea turtles is being programmatically evaluated, and that programmatic evaluation includes training operations similar to and within the limits of the contract ADAIR and temporary F-22 FTU operations. No new effects on federally listed species from additional contract ADAIR and continued F-22 FTU operations in the Warning Areas would be anticipated beyond those that are included in the ongoing MMPA take authorization and ESA Section 7 consultation and would be authorized under the MMPA and ESA following the issuance of a Letter of Authorization under the MMPA and Biological Opinion under the ESA by NMFS.

Within Florida, the Office of Intergovernmental Programs, under the State Clearinghouse (SCH), is the State's single point-of-contact for the review of federal projects and federally funded activities (Florida Department of Environmental Protection, 2018). The SCH determines if the applicant is subject to review under EO 12372, Florida Statutes § 403.061(42), or other federal or state laws. Applications must be submitted to the SCH for any activities that may affect Florida's environment or water quality or pertains to one or more of the following state and federal laws:

- Section 216.212, Florida Statutes
- Florida Coastal Management Program

- Coastal Zone Management Act
- National Historic Preservation Act (NHPA)
- National Environmental Policy Act
- Outer Continental Shelf Lands Act

The application is logged and assigned a State Application Identifier, which is sent to the applicant. The SCH distributes the application to the appropriate state agencies, water management districts, regional planning councils, local governments and the Governor's Office of Planning and Budgeting for review. Once review is complete, the SCH compiles the reviewing agencies' comments and issues a clearance letter or a state process recommendation letter. On 28 December 2021, in response to the Air Force's request to SCH regarding the *EA for Combat Air Forces Adversary Air, Eglin Air Force Base, Florida*, (hereafter referred to as the March 2022 EA) (Air Force, 2022), the SCH provided correspondence indicating that it did not select the project for review. Subsequent correspondence was sent to SCH regarding this EA, however on 20 February 2023 the SCH also declined to select the current Eglin AFB Combat Air Force ADAIR Plus Up with F-22 FTU draft EA for review.

### **A.1.2 Government-to-Government Consultation**

The NHPA and its regulations in 36 Code of Federal Regulations Part 800 and 40 Code of Federal Regulations Part 1501 direct federal agencies to consult with federally recognized Indian tribes when a Proposed Action has the potential to affect tribal lands or properties of religious and cultural significance. Consistent with the NHPA, Department of Defense Instruction 4710.02, *DoD Interactions with Federally Recognized Tribes*, and Department of Air Force Instruction 90-2002, *Interactions with Federally Recognized Tribes*, federally recognized tribes that are historically affiliated with lands in the vicinity of the Proposed Action have been invited to consult on all proposed undertakings that have a potential to affect properties of cultural, historical, or religious significance to the tribes. The tribal consultation process is distinct from National Environmental Policy Act consultation or the interagency coordination process, and it requires separate notification of all relevant tribes. The timelines for tribal consultation are also distinct from those of other consultations.

Eglin AFB regularly consults with the Miccosukee Tribe of Indians, Muscogee (Creek) Nation, Poarch Band of Creeks, Seminole Tribe of Florida, Seminole Nation of Oklahoma, and Thlopthlocco Tribal Town. As of 2012, Memorandums of Understanding outlining the notification and consultation procedures and, if deemed necessary, the excavation, handling, and reburial of human remains and associated funerary objects have been drafted between Eglin AFB and the Muscogee (Creek) Nation and the Thlopthlocco Tribal Town. Similar agreements are being pursued with additional tribes and tribal consultation, meetings, and identification of and visits to sacred sites, religious sites, or sites containing Native American Graves Protection and Repatriation Act items are ongoing. Eglin AFB also consulted with the Miccosukee Tribe of Indians, the Seminole Tribe of Florida, the Poarch Band of Creek, and the Muskogee (Creek) Nation, concerning places of religious and cultural significance to them as part of the Base Realignment and Closure Programmatic Agreement between Eglin AFB and the Florida State Historic Preservation Office (Eglin AFB, 2008). As such, no separate consultation regarding the Proposed Action analyzed for this EA were pursued for Eglin AFB and the Special Use Airspace. Consultations for this EA were focused on the civilian airport.

The Eglin AFB point of contact for Native American tribes is the Base Commander, or their designee, the Installation Tribal Liaison Officer. The point-of-contact for consultation with the Tribal Historic Preservation Officer and the Advisory Council on Historic Preservation is the Eglin AFB Cultural Resources Office. Government-to-government consultation is included in this Appendix.

## **A.2 PUBLIC AND AGENCY REVIEW OF ENVIRONMENTAL ASSESSMENT**

A Notice of Availability of the Draft EA and proposed Finding of No Significant Impact (FONSI) was published in *The Northwest Florida Daily News* and the *Panama City News Herald* inviting the public to review and comment on the Draft EA during the 30-day review period.

Copies of the Draft EA and proposed FONSI were made available for review at the following locations and electronically at <https://www.eglin.af.mil/About-Us/Eglin-Documents>:

- Fort Walton Beach Library, 185 Miracle Strip Parkway SE, Fort Walton Beach, Florida 32548
- Walton-Defuniak Public Library, 3 Circle Drive, Defuniak Springs, Florida 32435
- Destin Library, 150 Sibert Avenue, Destin, Florida 32541
- Bay County Public Library, 898 West 11th Street, Panama City, Florida 32401
- Panama City Beach Public Library, 12500 Hutchison Boulevard, Panama City Beach, Florida 32407

Those who were unable to access these documents online were asked to call Public Affairs at (850) 240-1497 or email [96CEG.CEIEA.NEPAPublicComments@us.af.mil](mailto:96CEG.CEIEA.NEPAPublicComments@us.af.mil) to arrange alternate access.

The Air Force is aware of the continuing impact from the coronavirus (COVID-19) pandemic on the usual methods of access to information and ability to communicate, such as the reduced visiting hours for local public libraries and challenges with the sufficiency of an increasingly overburdened internet. The Air Force seeks to implement appropriate additional measures to ensure that the public and all interested stakeholders have the opportunity to participate fully in this EA process. Accordingly, please do not hesitate to contact Ms. Paula Riley, 96 CEG/CEIEA, directly at 96<sup>th</sup> Test Wing Public Affairs, 101 West D Avenue, Room 238, Eglin AFB, Florida 32542-5105, or by email: [96CEG.CEIEA.NEPAPublicComments@us.af.mil](mailto:96CEG.CEIEA.NEPAPublicComments@us.af.mil) to assist in resolving issues involving access to the EA and FONSI.

One public comment was received and is included in this appendix. Materials were distributed directly to the commentor based on their request.

### **A.3 REFERENCES**

Air Force. 2022. *EA for Combat Air Forces Adversary Air, Eglin Air Force Base, Florida*.

Eglin AFB. 2008. *Programmatic Agreement Among Eglin Air Force Base, Seventh Special Forces Group (Airborne), Joint Strike Fighter Program and the Florida State Historic Preservation Officer Regarding the Proposed Implementation of the Base Realignment and Closure (2005) Decision and Related Actions, Eglin Air Force Base, Florida*.

Florida Department of Environmental Protection. 2018. *State Clearinghouse Brochure*. 2 July.

**A.4 INTERGOVERNMENTAL AND STAKEHOLDER COORDINATION**

**A.4.1 Sample Agency Scoping Letters**



**DEPARTMENT OF THE AIR FORCE  
HEADQUARTERS 96TH TEST WING (AFMC)  
EGLIN AIR FORCE BASE FLORIDA**

1 December 2022

Maria D. Rodriguez  
96 CEG/CEIE  
501 DeLeon Street, Suite 101  
Eglin Air Force Base FL 32542

Chris Stahl  
Coordinator, Florida State Clearinghouse  
Florida Department of Environmental Protection  
3800 Commonwealth Boulevard, Mail Station 47  
Tallahassee FL 32399-2400

Subject: Combat Air Forces Adversary Air Plus Up with F-22 Formal Training Unit Environmental Assessment, Eglin Air Force Base, Florida

Dear Mr. Stahl

The Department of Air Force (DAF) and Headquarters Air Combat Command are proposing to provide dedicated Combat Air Forces contract adversary air (ADAIR) support at Eglin Air Force Base (AFB) to address shortfalls in fighter pilot training and production capability and provide the necessary capability and capacity to employ adversary tactics across the training spectrum from basic fighter maneuvers to higher-end, advanced combat training missions.

In accordance with the National Environmental Policy Act (NEPA) of 1969, the Council on Environmental Quality Regulations, and the Air Force NEPA regulations, the DAF is in the process of preparing a Supplemental Environmental Assessment (EA) to assess the potential environmental impacts of ADAIR support for Eglin AFB. The Supplemental EA is being prepared in accordance with the NEPA (42 United States Code §§ 4321 through 4347), the Council on Environmental Quality regulations (40 Code of Federal Regulations), and the DAF's Environmental Impact Analysis Process (32 Code of Federal Regulations Part 989).

The Proposed Action includes additional contract ADAIR aircraft (4), maintenance personnel (19), pilots (4), and sorties (600) at the alternative locations analyzed in the March 2022 EA for *Combat Air Forces Adversary Air, Eglin Air Force Base, Florida* on which you were also invited to consult. The current Proposed Action includes increased operations, increased use of defensive countermeasures, and accounts for F-22 Formal Training Unit (FTU) potentially remaining at Eglin AFB. The baseline for the previous analysis assumed the F-22 FTU would depart Eglin AFB prior to permanent contract ADAIR operating from any alternative location. This Proposed Action includes contract ADAIR operations with the continuation of F-22 operations at Eglin AFB because the final decision regarding the relocation of the F-22 FTU to Joint Base Langley-Eustis, Langley AFB, Virginia, is delayed. The additional contract ADAIR aircraft would not use any additional airspace beyond what was analyzed in the March 2022 EA for *Combat Air Forces Adversary Air, Eglin Air Force Base, Florida*.

Additional contract ADAIR would support Eglin AFB training potentially operating from either Eglin AFB or a regional civilian airport, Northwest Florida Beaches International Airport (ECP). Aircraft would depart from the selected airfield, transit to existing military special use airspace, perform ADAIR training, transit back, and land at the airfield. Training activities would use existing special use airspace (Attachment 1). Proposed operations in the overland special use airspace would occur at altitudes that are unlikely to cause increased disturbance (i.e., above 24,000 feet mean sea level) and chaff and flares are not proposed for use.

If you have additional information regarding potential impacts of the Proposed Action on the environmental aspects of the project area of which we are unaware, we would appreciate receiving such information for inclusion and consideration during the NEPA process. We respectfully request your questions and comments be sent to Ms. Paula Riley, 96 CEG/CEIEA. As my principal point of contact on this effort; you can reach her at 501 DeLeon Street, Suite 101, Eglin AFB, Florida 32542-5105, by email: [REDACTED] or [REDACTED]. The DAF would greatly appreciate it if you would consolidate and submit your agency's comments within 30 days of receipt of this letter to ensure we can address them during the environmental impact analysis process.

RODRIGUEZRODRIGUEZ  
Z.MARIA.1182946024

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Date: 2022.12.01 12:08:45 -06'00'

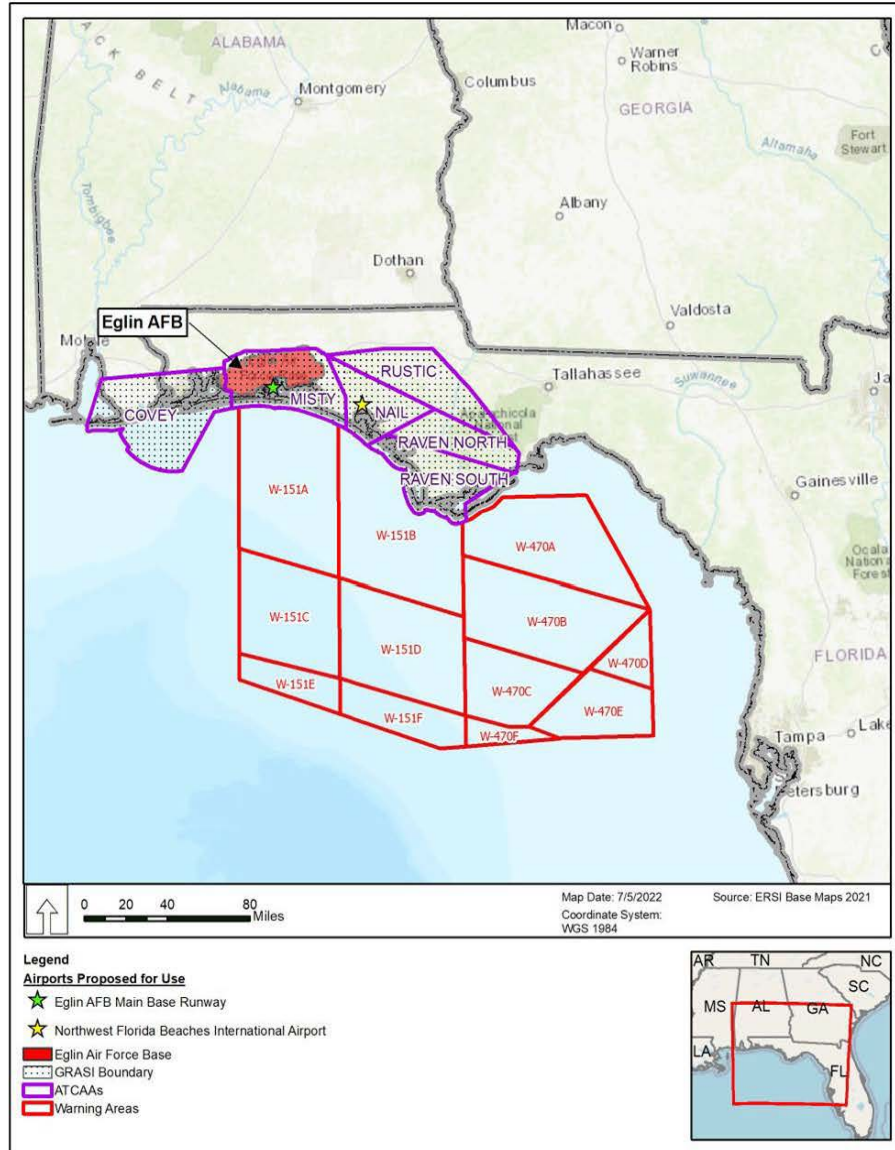
MARIA D. RODRIGUEZ  
Chief, Environmental Management Branch

**Attachment:**

Locations of Eglin Air Force Base, Florida, Northwest Florida Beaches International Airport, and the Special Use Airspace.

# Supplemental EA for Eglin AFB Combat Air Forces Adversary Air Plus Up with F-22 Formal Training Unit Final

Locations of Eglin Air Force Base, Florida, Northwest Florida Beaches International Airport, and the Special Use Airspace.





**A.4.2 Sample Tribal Scoping Letter**



**DEPARTMENT OF THE AIR FORCE  
HEADQUARTERS 96TH TEST WING (AFMC)  
EGLIN AIR FORCE BASE FLORIDA**

1 December 2022

Maria D. Rodriguez  
96 CEG/CEIE  
501 DeLeon Street, Suite 101  
Eglin Air Force Base FL 32542

Marcellus W. Osceola  
Chairman  
Seminole Tribe of Florida  
6300 Stirling Road  
Hollywood FL 33024

Subject: Combat Air Forces Adversary Air Plus Up with F-22 Formal Training Unit Environmental Assessment, Eglin Air Force Base, Florida

Dear Chairman Marcellus Osceola

The purpose of this letter is twofold: to give you an opportunity to review and comment on a proposed action in which the Seminole Tribe of Florida may have an interest and to invite you to participate in government-to-government consultation with the Department of the Air Force (DAF) pursuant to Section 106 of the National Historic Preservation Act.

In accordance with the National Environmental Policy Act (NEPA) of 1969, the Council on Environmental Quality Regulations for implementing the NEPA (40 Code of Federal Regulation Parts 1500–1508), and the DAF NEPA regulations, the DAF is in the process of preparing a Supplemental Environmental Assessment (EA) to assess the potential environmental impacts of providing additional Combat Air Forces contract adversary air (ADAIR) support for Eglin Air Force Base (AFB), Florida. The DAF is proposing to provide additional dedicated contract ADAIR sorties for Combat Air Forces training for Eglin AFB to address continued shortfalls in fighter pilot training and production capability and provide the necessary capability and capacity to employ adversary tactics across the training spectrum from basic fighter maneuvers to higher-end, advanced combat training missions.

The Proposed Action includes additional contract ADAIR aircraft (4), maintenance personnel (19), pilots (4), and sorties (600) at the alternative locations analyzed in the March 2022 *EA for Combat Air Forces Adversary Air, Eglin Air Force Base, Florida* on which you were also invited to consult. The current Proposed Action includes increased operations, increased use of defensive countermeasures, and accounts for F-22 Formal Training Unit (FTU) potentially remaining at Eglin AFB. The baseline for the previous analysis assumed the F-22 FTU would depart Eglin AFB prior to permanent contract ADAIR operating from any alternative location. Because the final decision regarding the relocation of the F-22 FTU to Joint Base Langley-Eustis, Langley AFB, Virginia, is delayed, this Proposed Action includes contract ADAIR operations with the continuation of F-22 FTU operations at Eglin AFB. The additional contract ADAIR aircraft would not use any additional airspace beyond what was analyzed in the March 2022 *EA for Combat Air Forces Adversary Air, Eglin Air Force Base, Florida*.



Additional contract ADAIR would support Eglin AFB training potentially operating from either Eglin AFB or a regional civilian airport, Northwest Florida Beaches International Airport (ECP). Aircraft would depart from the selected airfield, transit to existing military special use airspace, perform ADAIR training, transit back, and land at the airfield. Training activities would use existing special use airspace (Attachment 1). Proposed operations in the overland special use airspace would occur at altitudes that are unlikely to cause increased disturbance (i.e., above 24,000 feet mean sea level) and chaff and flares are not proposed for use. Therefore, the Area of Potential Effects for the Proposed Action in which we are requesting consultation is limited to Northwest Florida Beaches International Airport (ECP) in Florida (Attachment 2).

Pursuant to Section 106 of the National Historic Preservation Act, implementing regulations at 36 Code of Federal Regulations Part 800, and Department of Defense Instruction 4710.02 Section 3, *DoD Interactions with Federally Recognized Tribes*, we request government-to-government consultation on this Proposed Action. In particular, we invite you, pursuant to 36 Code of Federal Regulations § 800.4(a)(4), to provide information on any properties of historic, religious, or cultural significance that may be affected by our proposed undertaking. The DAF has conducted a search of the State of Florida's Historical Resources Florida Master Site File for this undertaking and no cultural resources were found. Being defined as a federal undertaking, we will be seeking input and inviting participation from other potential consulting parties, such as the Florida State Historic Preservation Office.

Please provide information, your comments, or requests for additional information at your earliest convenience. This will ensure the DAF has sufficient time to fully consider them when preparing the Draft Supplemental EA. Please inform us if someone else with the Seminole Tribe of Florida should serve as the primary point of contact and receive notification when the Draft Supplemental EA is available. I have designated Ms. Paula Riley, 96 CEG/CEIEA, as my principal point of contact on this effort; you can reach her at 501 DeLeon Street, Suite 101, Eglin AFB, Florida 32542-5105, by email: [REDACTED] or [REDACTED]. The DAF would greatly appreciate it if you would consolidate and submit your comments within 30 days from receipt of this letter. Eglin is again pleased to work with you in protecting the cultural resources of Eglin AFB.

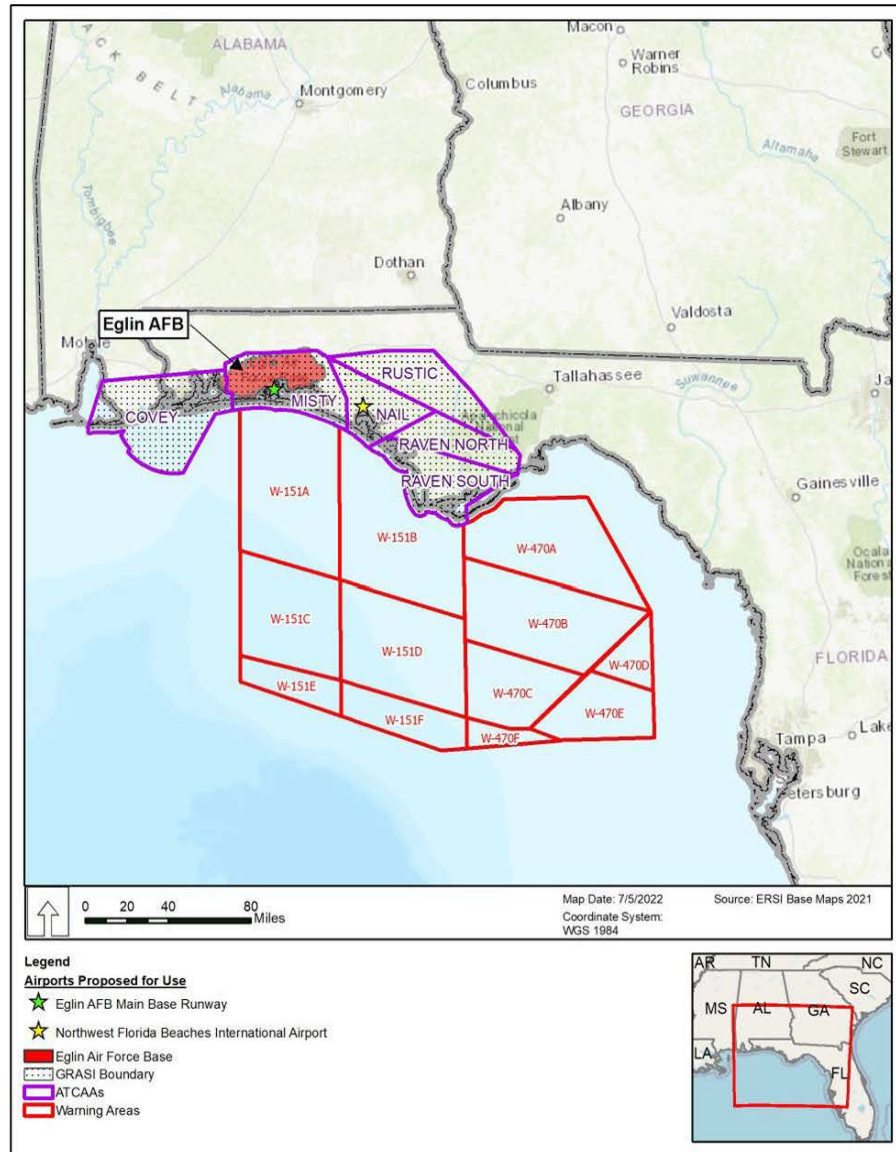
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2946024  
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MARIA D. RODRIGUEZ  
Installation Tribal Liaison Officer

Two Attachments:

1. Locations of Eglin Air Force Base, Florida, Northwest Florida Beaches International Airport, and the Special Use Airspace.
2. Area of Potential Effects for the Proposed Action, Northwest Florida Beaches International Airport.

**Supplemental EA for Eglin AFB Combat Air Forces Adversary Air Plus Up  
with F-22 Formal Training Unit  
Final**

Attachment 1: Locations of Eglin Air Force Base, Florida, Northwest Florida Beaches International Airport, and the Special Use Airspace.



Attachment 2: Area of Potential Effects for Northwest Florida Beaches International Airport.





**A.4.3 Sample Draft EA Letter**



**DEPARTMENT OF THE AIR FORCE  
HEADQUARTERS 96TH TEST WING (AFMC)  
EGLIN AIR FORCE BASE FLORIDA**

22 February 2023

Maria D. Rodriguez  
96 CEG/CEIE  
501 DeLeon Street, Suite 101  
Eglin Air Force Base FL 32542

Talbert Cypress  
Chairman  
Miccosukee Tribe of Indians of Florida  
Tamiami Station  
P.O. Box 440021  
Miami FL 33144

Subject: Draft Supplemental Environmental Assessment, Combat Air Forces Adversary Air Plus Up with F-22 Formal Training Unit, Eglin Air Force Base, Florida

The Department of the Air Force (DAF) has prepared a Draft Supplemental Environmental Assessment (EA) and Proposed Finding of No Significant Impact (FONSI) evaluating the potential environmental impacts associated with proposed additional Combat Air Forces contract adversary air (ADAIR) in support of Eglin Air Force Base (AFB) Florida. The Draft Supplemental EA was prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, the Council on Environmental Quality regulations implementing NEPA, and the Air Force NEPA regulations.

The EA analyzes the potential environmental impacts of adding four contract ADAIR aircraft, 19 maintenance personnel, four pilots, and 600 contracted sorties at Eglin AFB or at Northwest Florida Beaches International Airport. The current Proposed Action includes increased operations, increased use of defensive countermeasures, and accounts for F-22 Formal Training Unit (FTU) potentially remaining at Eglin AFB. The baseline for the previous analysis assumed the F-22 FTU would depart Eglin AFB prior to permanent contract ADAIR operating from any alternative location. The additional contract ADAIR aircraft would not use any additional airspace beyond what was analyzed in the March 2022 *EA for Combat Air Forces Adversary Air, Eglin Air Force Base, Florida*.

Executive Order 12372, Intergovernmental Review of Federal Programs, requires federal agencies to solicit other pertinent federal agencies, as well as state and local government participation in the NEPA process. We are requesting your participation in the review and comment process. The Draft Supplemental EA and the Proposed FONSI are available electronically at <https://www.eglin.af.mil/About-Us/Eglin-Documents>. The Draft Supplemental EA and Proposed FONSI are also available for review at the following locations:

- Bay County Public Library, 898 West 11th Street, Panama City, FL 32401

- Destin Library, 150 Sibert Avenue, Destin, FL 32541
- Fort Walton Beach Library, 185 Miracle Strip Parkway SE, Fort Walton Beach, FL 32548
- Panama City Beach Public Library, 12500 Hutchison Boulevard, Panama City Beach, FL 32407
- Walton-Defuniak Public Library, 3 Circle Drive, Defuniak Springs, FL 32435

I have designated Ms. Catherine Nolan, 96 CEG/CEIEA, as my principal point of contact on this effort; you can reach her at 501 DeLeon Street, Suite 101, Eglin AFB, Florida 32542-5105, by email: [REDACTED], or by phone: [REDACTED]. The DAF would greatly appreciate it if you would consolidate and submit your comments within 30 days from receipt of this letter. Eglin AFB is again pleased to work with you in protecting the cultural resources of Eglin AFB.

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Date: 2023.02.14 15:26:39 -06'00'

MARIA D. RODRIGUEZ  
Installation Tribal Liaison Officer

**A.5 MAILING LIST**

Christopher Stahl  
Coordinator  
Florida Department of Environmental Protection,  
Florida State Clearinghouse  
3800 Commonwealth Boulevard  
Mail Station 47  
Tallahassee, FL 32399

Marco Rubio  
Senator  
U.S. Senate  
284 Russell Senate Office Building  
Washington, DC 20510

Rick Scott  
Senator  
U.S. Senate  
716 Hart Senate Office Building  
Washington, DC 20510

Alissa Slade Lotane  
State Historic Preservation Officer  
Division of Historical Resources  
500 South Bronough Street  
Tallahassee FL 32399

Turner Hunt  
THPO  
The Muscogee (Creek) Nation  
P.O. Box 580  
Okmulgee, OK 74447

David Hill  
Principal Chief  
The Muscogee (Creek) Nation  
P.O. Box 580  
Okmulgee, OK 74447

Ryan Morrow  
Town King  
Thlopthlocco Tribal Town  
P.O. Box 188  
Okemah, OK 74859-0188

Talbert Cypress  
Chairman  
Miccosukee Tribe of Indians of Florida  
Tamiami Station  
P.O. Box 440021  
Miami, FL 33144

Marcellus W. Osceola  
Chairman  
Seminole Tribe of Florida  
6300 Stirling Road  
Hollywood, FL 33024

Ben Yahola  
THPO  
Seminole Nation of Oklahoma  
P.O. Box 1498  
Wewoka, OK 74884

Stephanie Bryan  
Tribal Chair  
Poarch Band of Creek Indians  
5811 Jack Springs Road  
Building 500  
Atmore, AL 36502

**A.6 AGENCY AND TRIBAL COMMENT LETTERS**

**From:** Stahl, Chris [REDACTED]  
**Sent:** Tuesday, December 13, 2022 8:21 AM  
**To:** RILEY, PAULA [REDACTED]  
**Subject:** [URL Verdict: Suspect][Non-DoD Source] RE:

As far as the Florida State Clearinghouse is concerned the CZMA Federal Consistency Determination compliance requirements have been met.

*Chris Stahl*

Chris Stahl, Coordinator  
Florida State Clearinghouse  
Florida Department of Environmental Protection  
3900 Commonwealth Blvd., M.S. 47  
Tallahassee, FL 32399-2400  
[REDACTED]

**From:** [REDACTED]  
**Sent:** Monday, December 12, 2022 4:15 PM  
**Subject:**

Thank you for your response. We understand that the Florida State Clearinghouse does not need to review this project further, and the Department of the Air Force will proceed.

Can you clarify if this also means we have met our CZMA Federal Consistency Determination compliance requirements and do not need to provide additional documentation?

Respectfully,  
Paula

//SIGNED//  
Paula Riley, Civ, USAF  
Environmental Planning Office  
[REDACTED]

**From:** State\_Clearinghouse [REDACTED]  
**Sent:** Friday, December 2, 2022 9:50 AM  
**To:** RILEY, PAULA [REDACTED]; State\_Clearinghouse [REDACTED]  
**Cc:** ROGERS, MELINDA [REDACTED]; SMITH, ERIN A [REDACTED];  
[REDACTED] KELLOGG, HELEN L [REDACTED];  
[REDACTED] Stumpf, Christa [REDACTED]; KEESLING, GRACE E [REDACTED]  
[REDACTED]  
**Subject:** [URL Verdict: Suspect][Non-DoD Source] RE: ADAIR Plus Up Eglin Supplemental EA



While it is covered by EO 12372, the Florida State Clearinghouse does not select the project for review. You may proceed with your project.

Please send future electronic requests directly to the State Clearinghouse email address, [REDACTED]

Good Luck.

*Chris Stahl*

Chris Stahl, Coordinator  
Florida State Clearinghouse  
Florida Department of Environmental Protection  
3900 Commonwealth Blvd., M.S. 47  
Tallahassee, FL 32399-2400  
[REDACTED]

**From:** RILEY, PAULA R [REDACTED]  
**Sent:** Thursday, December 1, 2022 2:11 PM  
**To:** State\_Clearinghouse [REDACTED]  
**Cc:** Stahl, Chris [REDACTED]; ROGERS, MELINDA A [REDACTED]  
[REDACTED]; SMITH, ERIN A [REDACTED]  
[REDACTED]; KELLOGG, HELEN [REDACTED]  
[REDACTED] Stumpf, Christa [REDACTED] KEESLING, GRACE E [REDACTED]  
**Subject:** ADAIR Plus Up Eglin Supplemental EA

Good afternoon,

Please find attached letter requesting the Florida State Clearinghouse review of a Proposed Action which is being analyzed in a Supplemental Environmental Assessment for Eglin Air Force Base, Florida.

Let me know if further information is needed, and your assistance is greatly appreciated.

Respectfully,  
Paula

//SIGNED//  
Paula Riley, Civ, USAF  
Environmental Planning Office  
[REDACTED]

**From:** RILEY, PAULA [REDACTED]  
**Sent:** Thursday, December 1, 2022 12:25 PM  
**To:** KELLOGG, HELEN [REDACTED] Stumpf, Christa [USA]  
**Cc:** SMITH, ERIN [REDACTED]  
**Subject:** FW: The Florida State Clearinghouse has received your electronic submittal

Following receipt acknowledgment.

Respectfully,  
Paula

//SIGNED//  
Paula Riley, Civ, USAF  
Environmental Planning Office  
96 CEG/CEIEA  
501 DeLeon Street  
Building 696, Suite 101  
Eglin AFB, FL 32542

**From:** State\_Clearinghouse [REDACTED]  
**Sent:** Thursday, December 1, 2022 1:17 PM  
**To:** RILEY, PAULA [REDACTED]  
**Subject:** [URL Verdict: Suspect][Non-DoD Source] The Florida State Clearinghouse has received your electronic submittal

The Florida State Clearinghouse has received your electronic submittal.

If you have any questions, please contact the Clearinghouse Coordinator at (850) 717-9076.

Thank you.

Kae Craig  
Office of Intergovernmental Programs  
Florida Dept. Environmental Protection  
[REDACTED]

**Supplemental EA for Eglin AFB Combat Air Forces Adversary Air Plus Up  
with F-22 Formal Training Unit  
Final**

---



**FLORIDA DEPARTMENT of STATE**

**RON DESANTIS**  
Governor

**CORD BYRD**  
Secretary of State

Ms. Maria D. Rodriguez  
Chief, Environmental Management Branch  
96 CEG/CEIE  
501 DeLeon Street, Suite 101  
Eglin Air Force Base, Florida 32542-5105

December 29, 2022

Re: DHR Project File No.: 2022-8204  
*Combat Air Forces Adversary Air Plus Up with F-22 Formal Training Unit Environmental  
Assessment*  
Eglin Air Force Base, Florida

Dear Ms. Rodriguez:

The Florida State Historic Preservation Officer reviewed the referenced project for possible effects on historic properties listed, or eligible for listing, in the National Register of Historic Places. The review was conducted in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended, and its implementing regulations in 36 CFR Part 800: Protection of Historic Properties.

Based on the information provided, this office concurs with your finding that the proposed undertaking should have "No Effect" on historic properties.

If you have any questions concerning our comments, please contact Scott Edwards, Historic Preservationist, by electronic mail [REDACTED] or at [REDACTED]  
[REDACTED]

Sincerely,

A handwritten signature in blue ink that reads "Kelly L. Chase" with "For" written below it.

Alissa Slade Lotane  
Director, Division of Historical Resources  
and State Historic Preservation Officer

Division of Historical Resources  
R.A. Gray Building • 500 South Bronough Street • Tallahassee, Florida 32399  
850.245.6300 • 850.245.6436 (Fax) • FLHeritage.com



**Supplemental EA for Eglin AFB Combat Air Forces Adversary Air Plus Up  
with F-22 Formal Training Unit  
Final**

**A.7 DRAFT EA NOTICE OF AVAILABILITY**

**LOCALiQ**

The Gainesville Sun | The Ledger  
Daily Commercial | Ocala StarBanner PO Box 631244 Cincinnati, OH 45263-1244  
News Chief | Herald-Tribune | News Herald  
Northwest Florida Daily News

**PROOF OF PUBLICATION**

Vernadero Group Inco  
Vernadero Group Incorporated  
3400 S. Carrollton Ave. #850752  
New Orleans LA 70185

STATE OF FLORIDA, COUNTY OF OKALOOSA

The Northwest Florida Daily News, a newspaper printed and published in the city of Fort Walton, and of general circulation in the Counties of Okaloosa, Santa Rosa and Walton, State of Florida, and personal knowledge of the facts herein state and that the notice hereto annexed was Published in said newspapers in the issue dated or by publication on the newspaper's website, if authorized, on:

02/26/2023

and that the fees charged are legal.  
Sworn to and subscribed before on 02/26/2023

Kaitlyn Felty  
Legal Clerk

Amy Kokott  
Notary, State of WI, County of Brown

02/26/2023  
My commission expires

Publication Cost: \$340.65

Order No: 8472744

# of Copies:

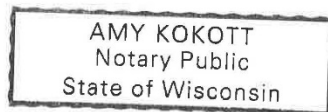
Customer No: 443791

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PO #:

**THIS IS NOT AN INVOICE!**

*Please do not use this form for payment remittance.*



# Supplemental EA for Eglin AFB Combat Air Forces Adversary Air Plus Up with F-22 Formal Training Unit Final

## NOTICE OF AVAILABILITY *Draft Supplemental Environmental Assessment for Combat Air Forces Adversary Air Plus Up with F-22 Formal Training Unit, Eglin Air Force Base, Florida*

A Draft Supplemental Environmental Assessment (EA) and Proposed Finding of No Significant Impact (FONSI) have been prepared by the United States Department of the Air Force (DAF) to analyze the impacts of providing dedicated contract adversary air (ADAIR) sorties for Combat Air Forces training in support of Eglin Air Force Base (AFB), Florida.

The Supplemental EA analyzes a Proposed Action to provide additional dedicated contract ADAIR sorties for Combat Air Forces training for Eglin AFB. Additional contract ADAIR would support Eglin AFB training operations out of Eglin AFB, Okaloosa County, Florida, or Northwest Florida Beaches International Airport, Bay County, Florida. The description of the Proposed Action for establishing contract ADAIR has been discussed in detail in the EA for Combat Air Forces Adversary Air, Eglin Air Force Base, Florida, and Finding of No Significant Impact (FONSI) signed by the Air Force in March 2022. The baseline for the previous analysis assumed the F-22 Formal Training Unit (FTU) would depart Eglin AFB prior to permanent contract ADAIR operating in support of Eglin AFB. Since the decision to relocate the F-22 FTU to Joint Base LangleyEustis has been delayed, this Proposed Action includes the contract ADAIR sorties previously analyzed in the March 2022 EA plus the increase and the potential continuation of F-22 FTU operations of Eglin AFB.

The Draft Supplemental EA and Proposed FONSI are available for review at the following locations:

- Bay County Public Library, 898 West 11th Street, Panama City, FL 32401
- Destin Library, 150 Silbert Avenue, Destin, FL 32541
- Fort Walton Beach Library, 185 Miracle Strip Parkway SE, Fort Walton Beach, FL 32548
- Panama City Beach Public Library, 12500 Hutchinson Boulevard, Panama City Beach, FL 32407
- Walton-Defunak Public Library, 3 Circle Drive, Defunak Springs, FL 32435

The electronic copy of the Draft Supplemental EA and Proposed FONSI are available at the Eglin AFB website:  
<https://www.eglin.af.mil/About-Us/Eglin-Documents/>

The Air Force is soliciting comments from interested local, state, and federal elected officials and agencies, as well as interested members of the public. Although comments can be submitted to the Air Force at any time during the EA process, comments are requested within 30 days from the publication date of this notice to ensure full consideration in the process. Comments can be submitted to Ms. Ilka Cole, 96th Test Wing Public Affairs, 101 West D Avenue, Room 238, Eglin AFB, FL 32542 or by email to [%CEG.CEIEA.NEPAPublicComments@us.af.mil](mailto:%CEG.CEIEA.NEPAPublicComments@us.af.mil).

## PRIVACY ADVISORY NOTICE

This Draft Supplemental EA and Proposed FONSI are provided for public comment in accordance with the National Environmental Policy Act (NEPA), the President's Council on Environmental Quality NEPA Regulations (40 Code of Federal Regulations [CFR] §§ 1500-1508), and 32 CFR § 989, Environmental Impact Analysis Process (EIAP). The EIAP provides an opportunity for the public to provide comments on the proposed action and alternatives and solicits comments on the analysis of potential environmental effects.

Public commenting allows the Air Force to make better, informed decisions. Letters or other written comments provided may be published in the EA. As required by law, comments provided will be addressed in the EA and made available to the public. Providing personal information is voluntary. Any personal information provided will only be used to fulfill requests for copies of the Final EA or associated documents. Private addresses will be compiled to develop a mailing list for those requesting copies of the Final EA; however, only the names of the individuals making comments and specific comments will be disclosed. Personal home addresses and phone numbers will not be published.  
#8472744; February 26, 2023

## LOCALiQ

The Gainesville Sun | The Ledger  
Daily Commercial | Ocala StarBanner  
News Chief | Herald-Tribune | News Herald  
Northwest Florida Daily News  
PO Box 631244 Cincinnati, OH 45263-1244

### **PROOF OF PUBLICATION**

Vernadero Group Inc Vernadero Group Inc  
Vernadero Group Inc.  
3400 S Carrollton AVE # 850752  
New Orleans LA 70185-5074


STATE OF FLORIDA, COUNTY OF BAY

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RYAN SPELLER  
Notary Public  
State of Wisconsin

# Supplemental EA for Eglin AFB Combat Air Forces Adversary Air Plus Up with F-22 Formal Training Unit Final

## NOTICE OF AVAILABILITY *Draft Supplemental Environmental Assessment for Combat Air Forces Adversary Air Plus Up with F-22 Formal Training Unit, Eglin Air Force Base, Florida*

A Draft Supplemental Environmental Assessment (EA) and Proposed Finding of No Significant Impact (FONSI) have been prepared by the United States Department of the Air Force (DAF) to analyze the impacts of providing dedicated contract adversary air (ADAIR) sorties for Combat Air Forces training in support of Eglin Air Force Base (AFB), Florida.

The Supplemental EA analyzes a Proposed Action to provide additional dedicated contract ADAIR sorties for Combat Air Forces training for Eglin AFB. Additional contract ADAIR would support Eglin AFB training operations out of Eglin AFB, Okaloosa County, Florida, or Northwest Florida Beaches International Airport, Bay County, Florida. The description of the Proposed Action for establishing contract ADAIR has been discussed in detail in the EA for Combat Air Forces Adversary Air, Eglin Air Force Base, Florida, and Finding of No Significant Impact (FONSI) signed by the Air Force in March 2022. The baseline for the previous analysis assumed the F-22 Formal Training Unit (FTU) would depart Eglin AFB prior to permanent contract ADAIR operating in support of Eglin AFB. Since the decision to relocate the F-22 FTU to Joint Base LangleyEustis has been delayed, this Proposed Action includes the contract ADAIR sorties previously analyzed in the March 2022 EA plus the increase and the potential continuation of F-22 FTU operations at Eglin AFB.

The Draft Supplemental EA and Proposed FONSI are available for review at the following locations:

- Bay County Public Library, 898 West 11th Street, Panama City, FL 32401
- Destin Library, 150 Sibert Avenue, Destin, FL 32541
- Fort Walton Beach Library, 185 Miracle Strip Parkway SE, Fort Walton Beach, FL 32548
- Panama City Beach Public Library, 12500 Hutchison Boulevard, Panama City Beach, FL 32407
- Walton-Defuniak Public Library, 3 Circle Drive, Defuniak Springs, FL 32435

The electronic copy of the Draft Supplemental EA and Proposed FONSI are available at the Eglin AFB website:  
<https://www.eglin.af.mil/About-Us/Eglin-Documents/>

The Air Force is soliciting comments from interested local, state, and federal elected officials and agencies, as well as interested members of the public. Although comments can be submitted to the Air Force at any time during the EA process, comments are requested within 30 days from the publication date of this notice to ensure full consideration in the process. Comments can be submitted to Ms. Ilka Cole, 96th Test Wing Public Affairs, 101 West D Avenue, Room 238, Eglin AFB, FL 32542 or by email to [96CEG.CEIEA.NEPAPublicComments@us.af.mil](mailto:96CEG.CEIEA.NEPAPublicComments@us.af.mil).

### PRIVACY ADVISORY NOTICE

This Draft Supplemental EA and Proposed FONSI are provided for public comment in accordance with the National Environmental Policy Act (NEPA), the President's Council on Environmental Quality NEPA Regulations (40 Code of Federal Regulations (CFR) §§ 1500-1508), and 32 CFR § 989. Environmental Impact Analysis Process (EIAP). The EIAP provides an opportunity for the public to provide comments on the proposed action and alternatives and solicits comments on the analysis of potential environmental effects.

Public commenting allows the Air Force to make better, informed decisions. Letters or other written comments provided may be published in the EA. As required by law, comments provided will be addressed in the EA and made available to the public. Providing personal information is voluntary. Any personal information provided will only be used to fulfill requests for copies of the Final EA or associated documents. Private addresses will be compiled to develop a mailing list for those requesting copies of the Final EA; however, only the names of the individuals making comments and specific comments will be disclosed. Personal home addresses and phone numbers will not be published.

Pub: Feb. 26, 2023; #8473239



**A.8 DRAFT EA PUBLIC COMMENT**

**From:** State\_Clearinghouse [REDACTED]  
**Sent:** Thursday, February 23, 2023 1:27 PM  
**To:** RILEY, PAULA R CIV USAF AFMC 96 CEG/CEIEA [REDACTED]  
**Cc:** State\_Clearinghouse [REDACTED]  
**Subject:** [URL Verdict: Suspect][Non-DoD Source] RE: Draft Supplemental Environmental Assessment  
Combat Air Forces Adversary Air Plus Up with F-22 Formal Training Unit Eglin Air Force Base, Florida

While it is covered by EO 12372, the Florida State Clearinghouse does not select the project for review. You may proceed with your project.

Please send future electronic requests directly to the State of Florida Clearinghouse email address,  
[REDACTED]

Good Luck.

Chris Stahl

Chris Stahl, Coordinator  
Florida State Clearinghouse  
Florida Department of Environmental Protection  
3900 Commonwealth Blvd., M.S. 47  
Tallahassee, FL 32399-2400  
[REDACTED]

---

**From:** [REDACTED]  
**Sent:** Wednesday, February 22, 2023 10:38 AM  
**Subject:**

Forwarding to correct email addresses to ensure delivery.

Good morning,

This correspondence is a request for review and comments from your office on the subject document, attached is the transmittal letter.

The Draft Supplemental Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) will be delivered to Mr. Stahl via Department of Defense Secure Access File Exchange (<https://safe.apps.mil/>), who should be receiving a notice soon for the download of the Draft Supplemental EA and Draft FONSI. If there are any download issues or if the documents should be sent to another individual, please let me know.

If a hard copy of the transmittal letter or a CD containing the draft document is needed, I will be happy to accommodate that need.

Your time and assistance are greatly appreciated.

Respectfully,  
Paula

//SIGNED//  
Paula Riley, Civ, USAF Environmental Planning Office 96 CEG/CEIEA  
501 DeLeon Street  
Building 696, Suite 101 Eglin AFB, FL 32542

**Supplemental EA for Eglin AFB Combat Air Forces Adversary Air Plus Up  
with F-22 Formal Training Unit  
Final**

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**From:** RILEY, PAULA R CIV USAF AFMC 96 CEG/CEIEA

**Sent:** Wednesday, February 22, 2023 9:14 AM

**To:** State\_Clearinghouse [REDACTED]; Stahl, Chris [REDACTED]

**Cc:** ROGERS, MELINDA A CIV USAF AFMC 96 CEG/CEIEA [REDACTED]; SMITH,  
ERIN A CIV USAF AFMC 96 CEG/CEIEA [REDACTED]; KELLOGG, HELEN L CIV USAF  
AFMC AFCEC/CZN [REDACTED]

**Subject:** Transmittal letter for Draft Final ADAIR Eglin Supplemental EA and Draft Final FONSI

Good morning,

This correspondence is a request for review and comments from your office on the subject document, attached is the transmittal letter.

The Draft Supplemental Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) will be delivered to Mr. Stahl via Department of Defense Secure Access File Exchange (<https://safe.apps.mil/>), who should be receiving a notice soon for the download of the Draft Supplemental EA and Draft FONSI. If there are any download issues or if the documents should be sent to another individual, please let me know.

If a hard copy of the transmittal letter or a CD containing the draft document is needed, I will be happy to accommodate that need.

Your time and assistance are greatly appreciated.

Respectfully,

Paula

//SIGNED//

Paula Riley, Civ, USAF Environmental Planning Office 96 CEG/CEIEA  
501 DeLeon Street  
Building 696, Suite 101 Eglin AFB, FL 32542

-----Original Message-----

From: SPAITS, MICHAEL E CIV USAF AFMC 96 TW/PA <[REDACTED]>  
Sent: Thursday, March 2, 2023 10:14 AM  
To: H. H. CALDWELL <[REDACTED]>; 96 CEG/CEIEA NEPAPublicComments  
<[96CEG.CEIEA.NEPAPublicComments@us.af.mil](mailto:96CEG.CEIEA.NEPAPublicComments@us.af.mil)>  
Subject: RE: [Non-DoD Source] Draft Supplemental Environmental Assessment for Combat Air Forces  
Adversary Air Plus Up with F-22 Formal Training Unit, Eglin Air Force Base, Florida

Mr. Caldwell,  
Please direct all requests for information through the official NEPAPublicComments email cc'd on this  
reply.

DoD no longer allows private government "[first.last@us.af.mil](mailto:first.last@us.af.mil)" email to be used in public notices or web  
notifications.

Also, I am retiring at the end of this month, so future correspondence may go unanswered.

Thanks,  
Michael Spaits  
Eglin Environmental Public Affairs  
[REDACTED]

-----Original Message-----

From: H. H. CALDWELL <[REDACTED]>  
Sent: Thursday, March 2, 2023 8:54 AM  
To: 96 CEG/CEIEA NEPAPublicComments  
<[96CEG.CEIEA.NEPAPublicComments@us.af.mil](mailto:96CEG.CEIEA.NEPAPublicComments@us.af.mil)>; SPAITS, MICHAEL E CIV USAF AFMC 96  
TW/PA <[REDACTED]>  
Subject: [Non-DoD Source] Draft Supplemental Environmental Assessment for Combat Air Forces  
Adversary Air Plus Up with F-22 Formal Training Unit, Eglin Air Force Base, Florida

I request a paper and electronic copy of the Subject document and final version be mailed to me at

H. H. Caldwell  
[REDACTED]  
Niceville, FL 32578.

Mr Spaits,  
I don't believe I have an email for Ms. Cole who is listed as a contact for the Subject document. I have  
two questions regarding the public notice for this project published in the Northwest Florida Daily News  
on February 26th:

1. Why the switch back to advertising in the classified advertisement section  
rather than the "advertisement" format?
2. Why no copy to the Niceville Library?

Regards,  
H. H. Caldwell

**APPENDIX B  
REASONABLY FORESEEABLE FUTURE ACTIONS**

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**B.1 REASONABLY FORESEEABLE FUTURE ACTIONS**

In addition to the reasonably foreseeable future projects presented and analyzed in the *EA for Combat Air Forces Adversary Air, Eglin Air Force Base, Florida* (Air Force, 2022), one additional project is considered in this Environmental Assessment (EA). The proposed beddown of F-35A Developmental Testing Aircraft includes the beddown of four F-35A aircraft and associated personnel at Eglin Air Force Base (AFB) as part of a weapons developmental test program to facilitate the integration of air-to-air and air-to-ground weapons on the F-35A aircraft. The F-35A beddown Proposed Action includes construction and renovation activities on-base. Aircraft and personnel are currently planned to begin arriving at Eglin AFB in Fiscal Year 2026. Potential impacts associated with the proposed beddown will be analyzed in a separate National Environmental Policy Act document.

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**APPENDIX C  
DEFINITION OF RESOURCES AREAS ANALYZED, METHODOLOGIES, AND MODELING**

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## **C.1 DEFINITION OF RESOURCE**

The definition of resources and regions of influence (ROI) remains unchanged for Eglin Air Force Base (AFB) and Northwest Florida Beaches Airport (ECP) from the *EA for Combat Air Forces Adversary Air, Eglin Air Force Base, Florida* (hereafter referred to as the March 2022 EA) (Air Force, 2022) for the resources included in this Environmental Assessment (EA) and are incorporated by reference.

## **C.2 NOISE**

### **C.2.1 Sound, Noise, and Potential Effects**

Noise, sound, and potential effects are described in the March 2022 EA (Air Force, 2022) and are incorporated by reference.

The ROI for noise includes Eglin AFB, ECP, and the special use airspace (SUA) depicted on **Figure 1-1** (see **Section 1.1.2**).

### **C.2.2 Noise Model Operational Data Documentation**

#### **C.2.2.1 Introduction**

The following sections describe the data collected and noise modeling performed for an Environmental Assessment (EA) analyzing the implementation of the F-22 Formal Training Unit (FTU) and contract adversary air (ADAIR) supporting Eglin AFB. Impacts associated with three alternatives involving the F-22 FTU and contract ADAIR were analyzed at Eglin AFB and impacts associated with a fourth alternative involving only contract ADAIR were analyzed at ECP. These datasets were developed in coordination with Air Force personnel and were based on a series of data collection efforts in late 2020 and early 2021.

The following analysis tools were used to calculate the potential noise levels associated with the examined alternatives.

##### **C.2.2.1.1 NOISEMAP**

Analyses of aircraft noise exposure and compatible land uses around DOD airfield-like facilities are normally accomplished using a group of computer-based programs, collectively called NOISEMAP (Czech and Plotkin, 1998; Wasmer and Maunsell, 2006a, 2006b). The core computational program of the NOISEMAP suite is NMAP. In this report, NMAP Version 7.3 was used to analyze aircraft operations and to generate noise contours.

##### **C.2.2.1.2 Aviation Environmental Design Tool**

Civilian aircraft operations were modeled using the Aviation Environmental Design Tool (AEDT). AEDT is the Federal Aviation Administration's (FAA's) software system that is designed to model aviation related operations in space and time to compute noise, emissions, and fuel consumption. Airfield noise modeling for the Environmental Impact Analysis Process (EIAP) combines civil aircraft noise estimated with AEDT Version 3c (FAA, 2020) with military aircraft noise, estimated with NOISEMAP Version 7.3.

##### **C.2.2.1.3 MR\_NMAP**

When the aircraft flight tracks are not well defined and are distributed over a wide area, such as in Military Training Routes with wide corridors or Warning Areas, the Air Force uses the Department of Defense- (DOD)-approved MR\_NMAP program (Lucas and Calamia, 1996). In this report, MR\_NMAP Version 3.0 was used to model subsonic aircraft noise in SUA. For SUA environments where noise levels are calculated to be less than 45 decibels (dB), the noise levels are stated as "<45 dB."

#### C.2.2.1.4 PCBoom

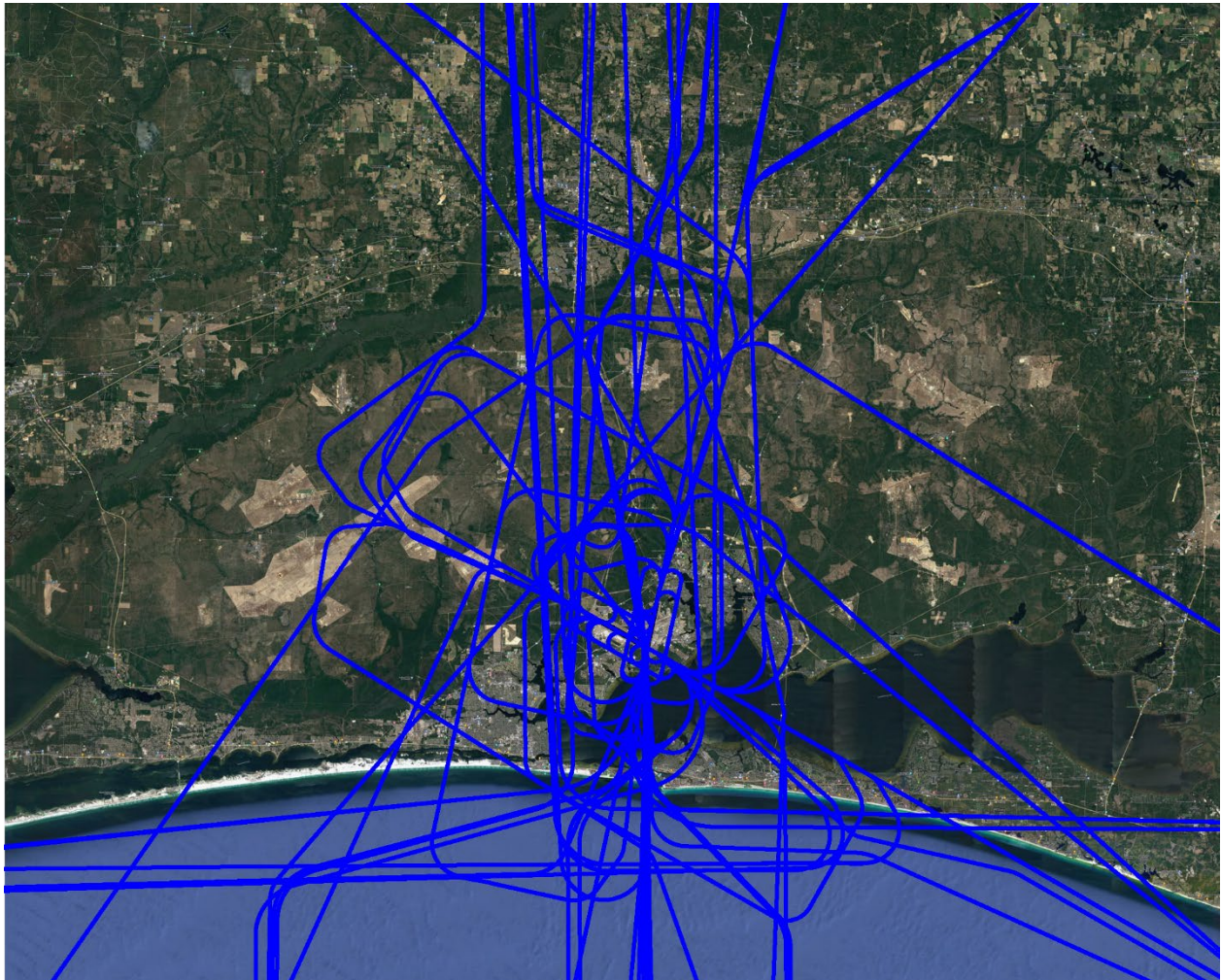
Environmental analysis of supersonic aircraft operations requires calculation of sonic boom amplitudes. For the purposes of this study, the Air Force and DOD-approved PCBoom program was used to assess sonic boom exposure due to military aircraft operations in supersonic SUA. In this report, PCBoom Version 4 was used to calculate sonic boom ground signatures and overpressures from supersonic vehicles performing steady, level flight operations (Plotkin, 2002).

#### C.2.2.1.5 BooMap

For cumulative sonic boom exposure under supersonic air combat training arenas, the Air Force and DOD-approved BooMap program was used. In this report, BooMap96 was used to calculate cumulative C-weighted DNL (CDNL) exposure based on long-term measurements in a number of SUA (Plotkin, 1993).

#### C.2.2.2 Flight Tracks

**Figures C-1 and C-2** display flight tracks proposed for use by the F-22 FTU and contract ADAIR aircraft at Eglin AFB and by contract ADAIR aircraft at ECP. All flight tracks shown are included in the noise models.



**Figure C-1. Contract Adversary Air Flight Tracks at Eglin Air Force Base.**



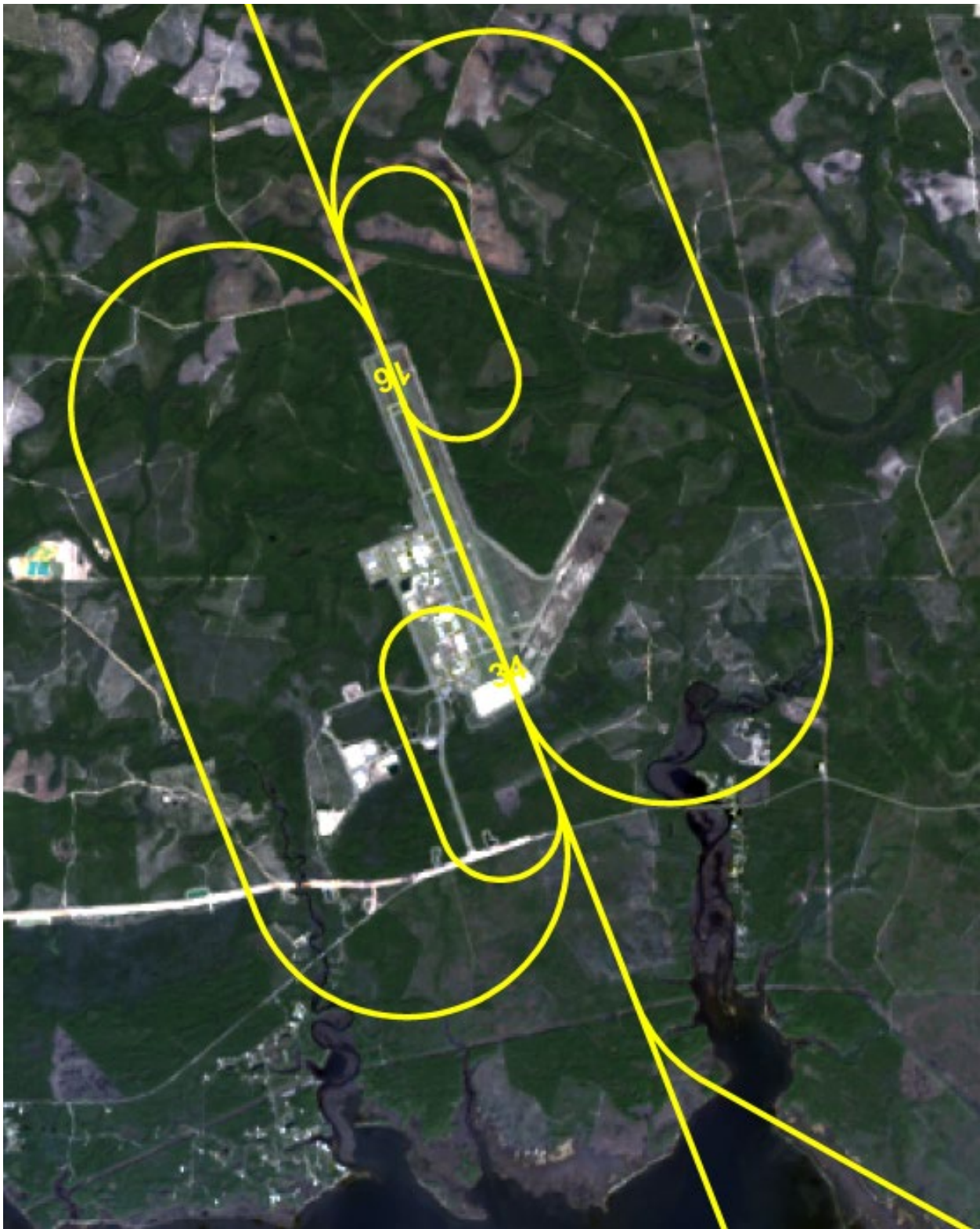


Figure C-2. Contract Adversary Air Flight Tracks at Northwest Florida Beaches International Airport.

**C.2.2.3 Flight Operations**

**Table C-1** contains the operations modeled for the existing conditions for Eglin AFB. These operations were taken from the March 2022 EA.

**Table C-2** contains the operations modeled for the existing conditions for ECP. These operations were taken from the March 2022 EA.

**Table C-3** contains the operations to be modeled for Alternative 1 at Eglin AFB. The only difference between Alternative 1 and the existing conditions is the inclusion of the F-22 FTU.

**Table C-4** contains the operations to be modeled for Alternative 2 at Eglin AFB. The only difference between Alternative 2 and existing conditions is the inclusion of the F-22 FTU plus 600 additional contract ADAIR sorties.

**Table C-5** contains the operations modeled for Alternative 3 at Eglin AFB. The only difference between Alternative 3 and existing conditions is the inclusion of the 600 additional contract ADAIR sorties (No F-22 FTU operations).

**Table C-6** contains the operations to be modeled for Alternative 4 at ECP. The only difference between Alternative 4 and the existing conditions is the inclusion of 600 additional contract ADAIR sorties.

**C.2.2.4 Runway Utilization**

**Table C-7** displays the runway utilization percentages for Eglin AFB aircraft.

**Table C-8** displays the runway utilization percentages for ECP aircraft.

Table C-1  
Existing Operations at Eglin Air Force Base

Aircraft Category		Aircraft Type	Afterburner Departure			MIL Departure			Overhead Arrivals			Straight In Arrivals			Closed Patterns			Total Annual Operations		
			Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total
Based	Military	F-35A (33d FW)	646	14	660	10,134	206	10,340	1,882	98	1,980	8,570	450	9,020	5,398	102	5,500	26,630	870	27,500
		A-10A (96th TW)	0	0	0	91	0	91	68	0	68	23	0	23	0	0	0	182	0	182
		C-130 (96th TW)	0	0	0	705	45	750	20	2	22	655	73	728	1,500	0	1,500	2,880	120	3,000
		F-15C (96th TW & 53d WG)	657	0	657	73	0	73	584	0	584	146	0	146	1,460	0	1,460	2,920	0	2,920
		F-15E (96th TW & 53d WG)	261	0	261	0	0	0	209	0	209	52	0	52	522	0	522	1,044	0	1,044
		F-16C (53d WG)	1,168	0	1,168	292	0	292	1,168	0	1,168	292	0	292	1,460	0	1,460	4,380	0	4,380
		UH-1 (96th TW)	0	0	0	62	1	63	0	0	0	62	1	63	190	0	190	314	2	316
		C-32 (486th FTS)	0	0	0	181	2	183	0	0	0	174	9	183	0	0	0	355	11	366
	Adversary Air	ADAIR	2,349	51	2,400	0	0	0	342	18	360	1,939	101	2,040	240	0	240	4,870	170	5,040
	Aero Club	Twin-engine, propeller	0	0	0	186	2	188	0	0	0	186	2	188	26	0	26	398	4	402
		Single-engine, propeller	0	0	0	716	38	754	0	0	0	746	8	754	106	0	106	1,568	46	1,614
	Civilian	A-320	0	0	0	137	15	152	0	0	0	144	8	152	0	0	0	281	23	304
		DC-9	0	0	0	1,056	117	1,173	0	0	0	1,114	59	1,173	0	0	0	2,170	176	2,346
		SAAB-340	0	0	0	56	6	62	0	0	0	59	3	62	0	0	0	115	9	124
		MD-82	0	0	0	598	66	664	0	0	0	631	33	664	0	0	0	1,229	99	1,328
		CL-601	0	0	0	4,072	452	4,524	0	0	0	4,298	226	4,524	0	0	0	8,370	678	9,048
	Based Totals		5,081	65	5,146	18,359	950	19,309	5,870	201	6,071	17494	890	18,384	10,902	102	11,004	57,706	2,208	59,914
Transient	A-10	0	0	0	22	0	22	0	0	0	22	0	22	0	0	0	44	0	44	
	B-737	0	0	0	9	0	9	0	0	0	9	0	9	0	0	0	18	0	18	
	H-60	0	0	0	32	0	32	0	0	0	32	0	32	128	0	128	192	0	192	
	C-12	0	0	0	34	0	34	0	0	0	34	0	34	0	0	0	68	0	68	
	C-130	0	0	0	131	0	131	0	0	0	131	0	131	550	0	550	812	0	812	
	C-17	0	0	0	69	0	69	0	0	0	69	0	69	28	0	28	166	0	166	
	C-21	0	0	0	11	0	11	0	0	0	11	0	11	0	0	0	22	0	22	
	C-32	0	0	0	22	0	22	0	0	0	22	0	22	24	0	24	68	0	68	
	C-5	0	0	0	10	0	10	0	0	0	10	0	10	0	0	0	20	0	20	
	F-15	0	0	0	7	0	7	0	0	0	7	0	7	0	0	0	14	0	14	
	F-16	0	0	0	31	0	31	0	0	0	31	0	31	434	0	434	496	0	496	
	F-18	0	0	0	23	0	23	0	0	0	23	0	23	322	0	322	368	0	368	
	F-22	0	0	0	8	0	8	0	0	0	8	0	8	0	0	0	16	0	16	
	F-35	0	0	0	9	0	9	0	0	0	9	0	9	162	0	162	180	0	180	
	KC-10	0	0	0	11	0	11	0	0	0	11	0	11	0	0	0	22	0	22	
	KC-135	0	0	0	76	0	76	0	0	0	76	0	76	304	0	304	456	0	456	
	T-1	0	0	0	10	0	10	0	0	0	10	0	10	0	0	0	20	0	20	
	T-38	0	0	0	93	0	93	0	0	0	93	0	93	130	0	130	316	0	316	
	T-45	0	0	0	6	0	6	0	0	0	6	0	6	24	0	24	36	0	36	
	T-6	0	0	0	25	0	25	0	0	0	25	0	25	50	0	50	100	0	100	
	Transient Totals		0	0	0	639	0	639	0	0	0	639	0	639	2,156	0	2,156	3,434	0	3,434
Grand Totals			5,081	65	5,146	18,998	950	19,948	5,870	201	6,071	18,133	890	19,023	13,058	102	13,160	61,140	2,208	63,348



Table C-2  
Existing Operations at Northwest Florida Beaches International Airport

Category		Representing Aircraft Types	Departure			Straight In Arrival			Overhead Arrival			Closed Pattern			TOTAL		
			Day (7am-10pm)	Night (10pm-7am)	Total	Day (7am-10pm)	Night (10pm-7am)	Total	Day (7am-10pm)	Night (10pm-7am)	Total	Day (7am-10pm)	Night (10pm-7am)	Total	Day (7am-10pm)	Night (10pm-7am)	Total
Military	Fixed Wing	CN35, B737, B06, BE9L, BE20, EC45, PC12, V22, F16, F15, F22, & F35	2,701	55	2,756	2,701	55	2,756	-	-	-	3,602	72	3,674	9,004	182	9,186
	Rotary Wing	UH60, OH58, MH60, H3, UH1, SK76, & CH47	142	3	145	142	3	145	-	-	-	190	4	194	474	10	484
	Adversary Air	ADAIR	2,349	51	2,400	342	18	360	1,939	101	2,040	240	0	240	4,870	170	5,040
Civilian Itinerant	Air Carrier	A321-232\V2530-A5	4	-	4	4	-	4	-	-	-	-	-	-	8	-	8
		Boeing 717-200/BR 715	224	-	224	224	-	224	-	-	-	-	-	-	448	-	448
		737MAX8\CFMLeap1B27	9	-	9	9	-	9	-	-	-	-	-	-	18	-	18
		BOEING 737-700/CFM56-7B24	2,188	-	2,188	2,188	-	2,188	-	-	-	-	-	-	4,376	-	4,376
		Boeing 737-800/CFM56-7B26	270	-	270	270	-	270	-	-	-	-	-	-	540	-	540
		MD-90/V525-D5	1,704	2	1,706	1,704	2	1,706	-	-	-	-	-	-	3,408	4	3,412
		ERJ190-200	1,413	-	1,413	1,413	-	1,413	-	-	-	-	-	-	2,826	-	2,826
		ERJ170-200	126	-	126	126	-	126	-	-	-	-	-	-	252	-	252
	Air Taxi	RJ	497	-	497	497	-	497	-	-	-	-	-	-	994	-	994
		Cessna Citation CJ4, others	851	-	851	851	-	851	-	-	-	-	-	-	1,702	-	1,702
		Gulfstream GIV-SP/TAY 611-8	388	-	388	388	-	388	-	-	-	-	-	-	776	-	776
		Cessna Citation XL 560 / PW545A	659	-	659	659	-	659	-	-	-	-	-	-	1,318	-	1,318
		CESSNA 550 CITATION BRAVO / PW530A	6	-	6	6	-	6	-	-	-	-	-	-	12	-	12
		Gulfstream III	6	-	6	6	-	6	-	-	-	-	-	-	12	-	12
		Learjet 31	11	-	11	11	-	11	-	-	-	-	-	-	22	-	22
		LEAR 36/TFE731-2	80	-	80	80	-	80	-	-	-	-	-	-	160	-	160
		Bae (Hawker-Siddeley) 125-800	95	-	95	95	-	95	-	-	-	-	-	-	190	-	190
	GA Itinerant	GA Jet: Gulfstream GIV, CESSNA 550, Lear 36	4,924	100	5,024	4,924	99	5,024	-	-	-	-	-	-	9,848	199	10,047
		GA 2-engine	4,276	87	4,363	4,276	87	4,363	-	-	-	-	-	-	8,552	174	8,726
		GA 1-engine	3,109	63	3,172	3,109	63	3,172	-	-	-	-	-	-	6,218	126	6,344
		Rotary Wing: EC45, B06, & R44	648	14	662	648	14	662	-	-	-	-	-	-	1,296	28	1,324
Civilian Local	GA 2-engine turboprop or piston	Cessna 441, others	666	14	680	666	14	680	-	-	-	1,332	28	1,360	2,664	56	2,720
	GA 1-engine turboprop or piston	Cessna 172, others	1,998	41	2,039	1,998	41	2,039	-	-	-	3,996	82	4,078	7,992	164	8,156
Grand Total			29,344	430	29,774	27,337	396	27,734	1,939	101	2,040	9,360	186	9,546	67,980	1,113	69,093

Table C-3  
Alternative 1 Operations at Eglin Air Force Base

Aircraft Category		Aircraft Type	Afterburner Departure			MIL Departure			Overhead Arrivals			Straight In Arrivals			Closed Patterns			Total Annual Operations		
			Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total
Based	Military	F-35A (33d FW)	646	14	660	10,134	206	10,340	1,882	98	1,980	8,570	450	9,020	5,398	102	5,500	26,630	870	27,500
		F-22	430	9	439	3,874	79	3,953	1,252	66	1,318	2,920	154	3,074	10,760	220	10,980	19,236	528	19,764
		T-38	5,368	0	5,368	0	0	0	966	0	966	4,402	0	4,402	537	0	537	11,273	0	11,273
		A-10A (96th TW)	0	0	0	91	0	91	68	0	68	23	0	23	0	0	0	182	0	182
		C-130 (96th TW)	0	0	0	705	45	750	20	2	22	655	73	728	1,500	0	1,500	2,880	120	3,000
		F-15C (96th TW & 53d WG)	657	0	657	73	0	73	584	0	584	146	0	146	1,460	0	1,460	2,920	0	2,920
		F-15E (96th TW & 53d WG)	261	0	261	0	0	0	209	0	209	52	0	52	522	0	522	1,044	0	1,044
		F-16C (53d WG)	1,168	0	1,168	292	0	292	1,168	0	1,168	292	0	292	1,460	0	1,460	4,380	0	4,380
		UH-1 (96th TW)	0	0	0	62	1	63	0	0	0	62	1	63	190	0	190	314	2	316
	C-32 (486th FTS)	0	0	0	181	2	183	0	0	0	174	9	183	0	0	0	355	11	366	
	Adversary Air	ADAIR	2,349	51	2,400	0	0	0	342	18	360	1,939	101	2,040	240	0	240	4,870	170	5,040
	Aero Club	Twin-engine, propeller	0	0	0	186	2	188	0	0	0	186	2	188	26	0	26	398	4	402
		Single-engine, propeller	0	0	0	716	38	754	0	0	0	746	8	754	106	0	106	1,568	46	1,614
	Civilian	A-320	0	0	0	137	15	152	0	0	0	144	8	152	0	0	0	281	23	304
		DC-9	0	0	0	1,056	117	1,173	0	0	0	1,114	59	1,173	0	0	0	2,170	176	2,346
		SAAB-340	0	0	0	56	6	62	0	0	0	59	3	62	0	0	0	115	9	124
		MD-82	0	0	0	598	66	664	0	0	0	631	33	664	0	0	0	1,229	99	1,328
		CL-601	0	0	0	4,072	452	4,524	0	0	0	4,298	226	4,524	0	0	0	8,370	678	9,048
	Based Totals			10,879	74	10,953	22,233	1,029	23,262	6,491	184	6,675	26,413	1,127	27,540	22,199	322	22,521	88,215	2,736
Transient	A-10	0	0	0	22	0	22	0	0	0	22	0	22	0	0	0	44	0	44	
	B-737	0	0	0	9	0	9	0	0	0	9	0	9	0	0	0	18	0	18	
	H-60	0	0	0	32	0	32	0	0	0	32	0	32	128	0	128	192	0	192	
	C-12	0	0	0	34	0	34	0	0	0	34	0	34	0	0	0	68	0	68	
	C-130	0	0	0	131	0	131	0	0	0	131	0	131	550	0	550	812	0	812	
	C-17	0	0	0	69	0	69	0	0	0	69	0	69	28	0	28	166	0	166	
	C-21	0	0	0	11	0	11	0	0	0	11	0	11	0	0	0	22	0	22	
	C-32	0	0	0	22	0	22	0	0	0	22	0	22	24	0	24	68	0	68	
	C-5	0	0	0	10	0	10	0	0	0	10	0	10	0	0	0	20	0	20	
	F-15	0	0	0	7	0	7	0	0	0	7	0	7	0	0	0	14	0	14	
	F-16	0	0	0	31	0	31	0	0	0	31	0	31	434	0	434	496	0	496	
	F-18	0	0	0	23	0	23	0	0	0	23	0	23	322	0	322	368	0	368	
	F-22	0	0	0	8	0	8	0	0	0	8	0	8	0	0	0	16	0	16	
	F-35	0	0	0	9	0	9	0	0	0	9	0	9	162	0	162	180	0	180	
	KC-10	0	0	0	11	0	11	0	0	0	11	0	11	0	0	0	22	0	22	
	KC-135	0	0	0	76	0	76	0	0	0	76	0	76	304	0	304	456	0	456	
	T-1	0	0	0	10	0	10	0	0	0	10	0	10	0	0	0	20	0	20	
	T-38	0	0	0	93	0	93	0	0	0	93	0	93	130	0	130	316	0	316	
	T-45	0	0	0	6	0	6	0	0	0	6	0	6	24	0	24	36	0	36	
	T-6	0	0	0	25	0	25	0	0	0	25	0	25	50	0	50	100	0	100	
Transient Totals			0	0	0	639	0	639	0	0	0	639	0	639	2,156	0	2,156	3,434	0	3,434
Grand Totals			10,879	74	10,953	22,872	1,029	23,901	6,491	184	6,675	27,052	1,127	28,179	24,355	322	24,677	91,649	2,736	94,385

Table C-4  
Alternative 2 Operations at Eglin Air Force Base

Aircraft Category		Aircraft Type	Afterburner Departure			MIL Departure			Overhead Arrivals			Straight In Arrivals			Closed Patterns			Total Annual Operations		
			Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total
Based	Military	F-35A (33d FW)	646	14	660	10,134	206	10,340	1,882	98	1,980	8,570	450	9,020	5,398	102	5,500	26,630	870	27,500
		F-22	430	9	439	3,874	79	3,953	1,252	66	1,318	2,920	154	3,074	10,760	220	10,980	19,236	528	19,764
		T-38	5,368	0	5,368	0	0	0	966	0	966	4,402	0	4,402	537	0	537	11,273	0	11,273
		A-10A (96th TW)	0	0	0	91	0	91	68	0	68	23	0	23	0	0	0	182	0	182
		C-130 (96th TW)	0	0	0	705	45	750	20	2	22	655	73	728	1,500	0	1,500	2,880	120	3,000
		F-15C (96th TW & 53d WG)	657	0	657	73	0	73	584	0	584	146	0	146	1,460	0	1,460	2,920	0	2,920
		F-15E (96th TW & 53d WG)	261	0	261	0	0	0	209	0	209	52	0	52	522	0	522	1,044	0	1,044
		F-16C (53d WG)	1,168	0	1,168	292	0	292	1,168	0	1,168	292	0	292	1,460	0	1,460	4,380	0	4,380
		UH-1 (96th TW)	0	0	0	62	1	63	0	0	0	62	1	63	190	0	190	314	2	316
	C-32 (486th FTS)	0	0	0	181	2	183	0	0	0	174	9	183	0	0	0	355	11	366	
	Adversary Air	ADAIR	2,936	64	3,000	0	0	0	428	23	450	2,424	126	2,550	300	0	300	6,088	213	6,300
	Aero Club	Twin-engine, propeller	0	0	0	186	2	188	0	0	0	186	2	188	26	0	26	398	4	402
		Single-engine, propeller	0	0	0	716	38	754	0	0	0	746	8	754	106	0	106	1,568	46	1,614
	Civilian	A-320	0	0	0	137	15	152	0	0	0	144	8	152	0	0	0	281	23	304
		DC-9	0	0	0	1,056	117	1,173	0	0	0	1,114	59	1,173	0	0	0	2,170	176	2,346
		SAAB-340	0	0	0	56	6	62	0	0	0	59	3	62	0	0	0	115	9	124
		MD-82	0	0	0	598	66	664	0	0	0	631	33	664	0	0	0	1,229	99	1,328
		CL-601	0	0	0	4,072	452	4,524	0	0	0	4,298	226	4,524	0	0	0	8,370	678	9,048
	Based Totals			11,466	87	11,553	22,233	1,029	23,262	6,577	189	6,765	26,898	1,152	28,050	22,259	322	22,581	89,433	2,779
Transient	A-10	0	0	0	22	0	22	0	0	0	22	0	22	0	0	0	44	0	44	
	B-737	0	0	0	9	0	9	0	0	0	9	0	9	0	0	0	18	0	18	
	H-60	0	0	0	32	0	32	0	0	0	32	0	32	128	0	128	192	0	192	
	C-12	0	0	0	34	0	34	0	0	0	34	0	34	0	0	0	68	0	68	
	C-130	0	0	0	131	0	131	0	0	0	131	0	131	550	0	550	812	0	812	
	C-17	0	0	0	69	0	69	0	0	0	69	0	69	28	0	28	166	0	166	
	C-21	0	0	0	11	0	11	0	0	0	11	0	11	0	0	0	22	0	22	
	C-32	0	0	0	22	0	22	0	0	0	22	0	22	24	0	24	68	0	68	
	C-5	0	0	0	10	0	10	0	0	0	10	0	10	0	0	0	20	0	20	
	F-15	0	0	0	7	0	7	0	0	0	7	0	7	0	0	0	14	0	14	
	F-16	0	0	0	31	0	31	0	0	0	31	0	31	434	0	434	496	0	496	
	F-18	0	0	0	23	0	23	0	0	0	23	0	23	322	0	322	368	0	368	
	F-22	0	0	0	8	0	8	0	0	0	8	0	8	0	0	0	16	0	16	
	F-35	0	0	0	9	0	9	0	0	0	9	0	9	162	0	162	180	0	180	
	KC-10	0	0	0	11	0	11	0	0	0	11	0	11	0	0	0	22	0	22	
	KC-135	0	0	0	76	0	76	0	0	0	76	0	76	304	0	304	456	0	456	
	T-1	0	0	0	10	0	10	0	0	0	10	0	10	0	0	0	20	0	20	
	T-38	0	0	0	93	0	93	0	0	0	93	0	93	130	0	130	316	0	316	
	T-45	0	0	0	6	0	6	0	0	0	6	0	6	24	0	24	36	0	36	
	T-6	0	0	0	25	0	25	0	0	0	25	0	25	50	0	50	100	0	100	
Transient Totals			0	0	0	639	0	639	0	0	0	639	0	639	2,156	0	2,156	3,434	0	3,434
Grand Totals			11,466	87	11,553	22,872	1,029	23,901	6,577	189	6,765	27,537	1,152	28,689	24,415	322	24,737	92,867	2,779	95,645

Table C-5  
Alternative 3 Operations at Eglin Air Force Base

Aircraft Category		Aircraft Type	Afterburner Departure			MIL Departure			Overhead Arrivals			Straight In Arrivals			Closed Patterns			Total Annual Operations		
			Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total
Based	Military	F-35A (33d FW)	646	14	660	10,134	206	10,340	1,882	98	1,980	8,570	450	9,020	5,398	102	5,500	26,630	870	27,500
		A-10A (96th TW)	0	0	0	91	0	91	68	0	68	23	0	23	0	0	0	182	0	182
		C-130 (96th TW)	0	0	0	705	45	750	20	2	22	655	73	728	1,500	0	1,500	2,880	120	3,000
		F-15C (96th TW & 53d WG)	657	0	657	73	0	73	584	0	584	146	0	146	1,460	0	1,460	2,920	0	2,920
		F-15E (96th TW & 53d WG)	261	0	261	0	0	0	209	0	209	52	0	52	522	0	522	1,044	0	1,044
		F-16C (53d WG)	1,168	0	1,168	292	0	292	1,168	0	1,168	292	0	292	1,460	0	1,460	4,380	0	4,380
		UH-1 (96th TW)	0	0	0	62	1	63	0	0	0	62	1	63	190	0	190	314	2	316
		C-32 (486th FTS)	0	0	0	181	2	183	0	0	0	174	9	183	0	0	0	355	11	366
	Adversary Air	ADAIR	2,936	64	3,000	0	0	0	428	23	450	2,424	126	2,550	300	0	300	6,088	213	6,300
	Aero Club	Twin-engine, propeller	0	0	0	186	2	188	0	0	0	186	2	188	26	0	26	398	4	402
		Single-engine, propeller	0	0	0	716	38	754	0	0	0	746	8	754	106	0	106	1,568	46	1,614
	Civilian	A-320	0	0	0	137	15	152	0	0	0	144	8	152	0	0	0	281	23	304
		DC-9	0	0	0	1,056	117	1,173	0	0	0	1,114	59	1,173	0	0	0	2,170	176	2,346
		SAAB-340	0	0	0	56	6	62	0	0	0	59	3	62	0	0	0	115	9	124
		MD-82	0	0	0	598	66	664	0	0	0	631	33	664	0	0	0	1,229	99	1,328
		CL-601	0	0	0	4,072	452	4,524	0	0	0	4,298	226	4,524	0	0	0	8,370	678	9,048
	Based Totals		5,668	78	5,746	18,359	950	19,309	4,359	123	4,481	19,576	998	20,574	10,962	102	11,064	58,924	2,251	61,174
Transient		A-10	0	0	0	22	0	22	0	0	0	22	0	22	0	0	0	44	0	44
		B-737	0	0	0	9	0	9	0	0	0	9	0	9	0	0	0	18	0	18
		H-60	0	0	0	32	0	32	0	0	0	32	0	32	128	0	128	192	0	192
		C-12	0	0	0	34	0	34	0	0	0	34	0	34	0	0	0	68	0	68
		C-130	0	0	0	131	0	131	0	0	0	131	0	131	550	0	550	812	0	812
		C-17	0	0	0	69	0	69	0	0	0	69	0	69	28	0	28	166	0	166
		C-21	0	0	0	11	0	11	0	0	0	11	0	11	0	0	0	22	0	22
		C-32	0	0	0	22	0	22	0	0	0	22	0	22	24	0	24	68	0	68
		C-5	0	0	0	10	0	10	0	0	0	10	0	10	0	0	0	20	0	20
		F-15	0	0	0	7	0	7	0	0	0	7	0	7	0	0	0	14	0	14
		F-16	0	0	0	31	0	31	0	0	0	31	0	31	434	0	434	496	0	496
		F-18	0	0	0	23	0	23	0	0	0	23	0	23	322	0	322	368	0	368
		F-22	0	0	0	8	0	8	0	0	0	8	0	8	0	0	0	16	0	16
		F-35	0	0	0	9	0	9	0	0	0	9	0	9	162	0	162	180	0	180
		KC-10	0	0	0	11	0	11	0	0	0	11	0	11	0	0	0	22	0	22
		KC-135	0	0	0	76	0	76	0	0	0	76	0	76	304	0	304	456	0	456
		T-1	0	0	0	10	0	10	0	0	0	10	0	10	0	0	0	20	0	20
		T-38	0	0	0	93	0	93	0	0	0	93	0	93	130	0	130	316	0	316
		T-45	0	0	0	6	0	6	0	0	0	6	0	6	24	0	24	36	0	36
		T-6	0	0	0	25	0	25	0	0	0	25	0	25	50	0	50	100	0	100
	Transient Totals		0	0	0	639	0	639	0	0	0	639	0	639	2,156	0	2,156	3,434	0	3,434
Grand Totals			5,668	78	5,746	18,998	950	19,948	4,359	123	4,481	20,215	998	21,213	13,118	102	13,220	62,358	2,251	64,608

Table C-6  
Alternative 4 Operations at Northwest Florida Beaches International Airport

Category		Representing Aircraft Types	Departure			Straight In Arrival			Overhead Arrival			Closed Pattern			TOTAL		
			Day (7am-10pm)	Night (10pm-7am)	Total	Day (7am-10pm)	Night (10pm-7am)	Total	Day (7am-10pm)	Night (10pm-7am)	Total	Day (7am-10pm)	Night (10pm-7am)	Total	Day (7am-10pm)	Night (10pm-7am)	Total
Military	Fixed Wing	CN35, B737, B06, BE9L, BE20, EC45, PC12, V22, F16, F15, F22, & F35	2,701	55	2,756	2,701	55	2,756	-	-	-	3,602	72	3,674	9,004	182	9,186
	Rotary Wing	UH60, OH58, MH60, H3, UH1, SK76, & CH47	142	3	145	142	3	145	-	-	-	190	4	194	474	10	484
	Adversary Air	ADAIR	2,936	64	3,000	428	23	450	2,424	126	2,550	300	0	300	6,088	213	6,300
Civilian Itinerant	Air Carrier	A321-232\V2530-A5	4	-	4	4	-	4	-	-	-	-	-	-	8	-	8
		Boeing 717-200/BR 715	224	-	224	224	-	224	-	-	-	-	-	-	448	-	448
		737MAX8\CFMLeap1B27	9	-	9	9	-	9	-	-	-	-	-	-	18	-	18
		BOEING 737-700/CFM56-7B24	2,188	-	2,188	2,188	-	2,188	-	-	-	-	-	-	4,376	-	4,376
		Boeing 737-800/CFM56-7B26	270	-	270	270	-	270	-	-	-	-	-	-	540	-	540
		MD-90/V525-D5	1,704	2	1,706	1,704	2	1,706	-	-	-	-	-	-	3,408	4	3,412
		ERJ190-200	1,413	-	1,413	1,413	-	1,413	-	-	-	-	-	-	2,826	-	2,826
		ERJ170-200	126	-	126	126	-	126	-	-	-	-	-	-	252	-	252
	Air Taxi	RJ	497	-	497	497	-	497	-	-	-	-	-	-	994	-	994
		Cessna Citation CJ4, others	851	-	851	851	-	851	-	-	-	-	-	-	1,702	-	1,702
		Gulfstream GIV-SP/TAY 611-8	388	-	388	388	-	388	-	-	-	-	-	-	776	-	776
		Cessna Citation XL 560 / PW545A	659	-	659	659	-	659	-	-	-	-	-	-	1,318	-	1,318
		CESSNA 550 CITATION BRAVO / PW530A	6	-	6	6	-	6	-	-	-	-	-	-	12	-	12
		Gulfstream III	6	-	6	6	-	6	-	-	-	-	-	-	12	-	12
		Learjet 31	11	-	11	11	-	11	-	-	-	-	-	-	22	-	22
		LEAR 36/TFE731-2	80	-	80	80	-	80	-	-	-	-	-	-	160	-	160
		Bae (Hawker-Siddeley) 125-800	95	-	95	95	-	95	-	-	-	-	-	-	190	-	190
	GA Itinerant	GA Jet: Gulfstream GIV, CESSNA 550, Lear 36	4,924	100	5,024	4,924	99	5,024	-	-	-	-	-	-	9,848	199	10,047
		GA 2-engine	4,276	87	4,363	4,276	87	4,363	-	-	-	-	-	-	8,552	174	8,726
		GA 1-engine	3,109	63	3,172	3,109	63	3,172	-	-	-	-	-	-	6,218	126	6,344
		Rotary Wing: EC45, B06, & R44	648	14	662	648	14	662	-	-	-	-	-	-	1,296	28	1,324
Civilian Local	GA 2-engine turboprop or piston	Cessna 441, others	666	14	680	666	14	680	-	-	-	1,332	28	1,360	2,664	56	2,720
	GA 1-engine turboprop or piston	Cessna 172, others	1,998	41	2,039	1,998	41	2,039	-	-	-	3,996	82	4,078	7,992	164	8,156
Grand Total			29,931	443	30,374	27,423	401	27,824	2,424	126	2,550	9,420	186	9,606	69,198	1,156	70,353

**Table C-7**  
**Runway Usage at Eglin Air Force Base – F-35A and Adversary Air**

Runway	Departures			Arrivals		
	F-35A	F-22	ADAIR	F-35A	F-22	ADAIR
01	0%	0%	0%	0%	0%	0%
12	75%	75%	93%	75%	75%	93%
19	6%	6%	2%	6%	6%	2%
30	19%	19%	5%	19%	19%	5%

**Table C-8**  
**Runway Usage at Northwest Florida Beaches International Airport**

Runway	Departures	Arrivals
16	60%	60%
34	40%	40%

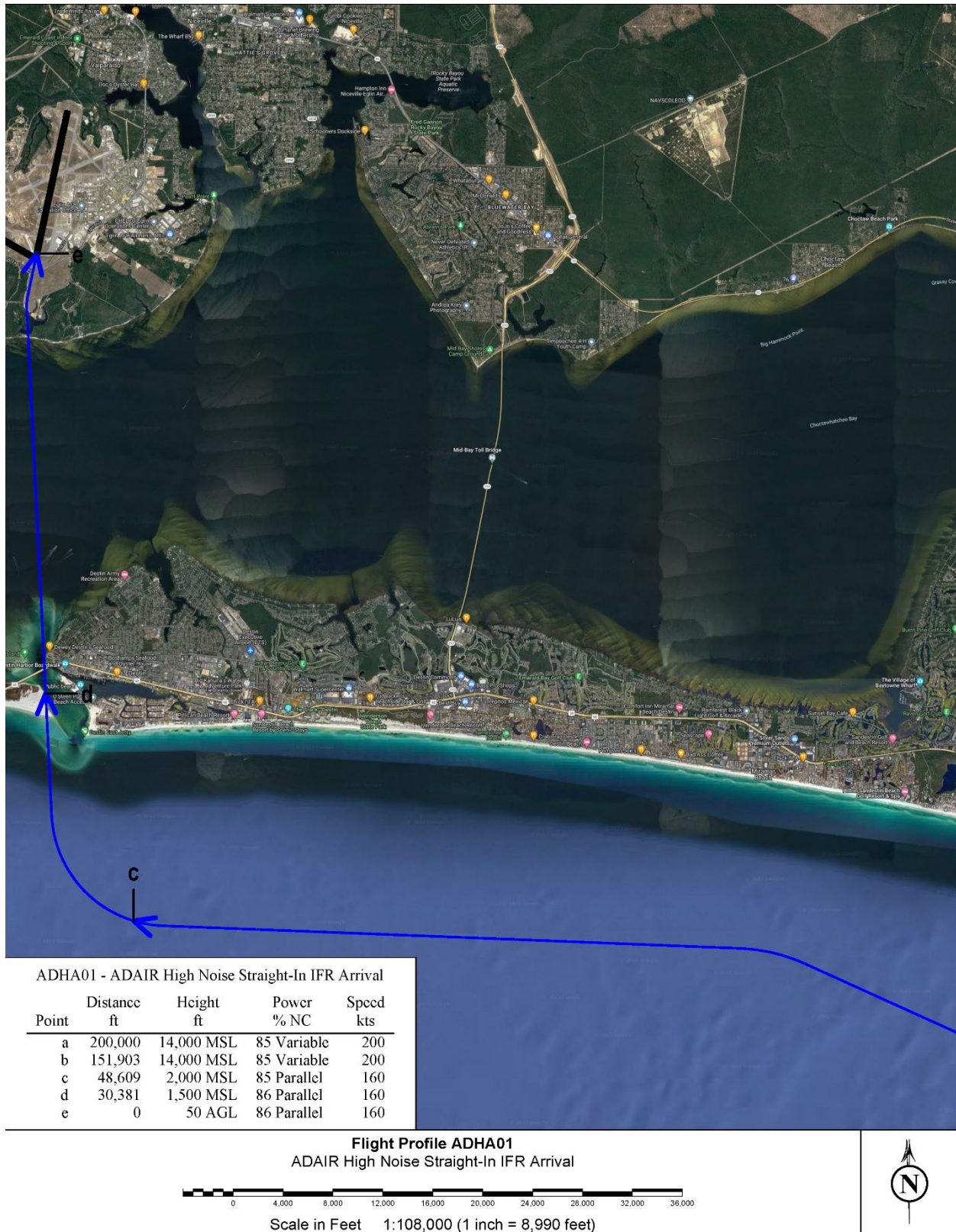
*No more than 30% of total contract ADAIR closed pattern operations would use Runway 16 under the Proposed Action*

#### **C.2.2.5 Flight Profiles**

Representative profiles provide the speed and power setting of each type of aircraft as a function of distance along the flight track for the representative maneuvers. For modeling purposes, the appropriate profile was used for all flight tracks that conform to that maneuver type. For example, all overhead break arrival tracks utilize the representative profile for modeling that maneuver. The following images illustrate representative flight tracks for the F-22 FTU, F-35A and contract ADAIR aircraft operations at Eglin AFB and contract ADAIR aircraft operations at ECP.

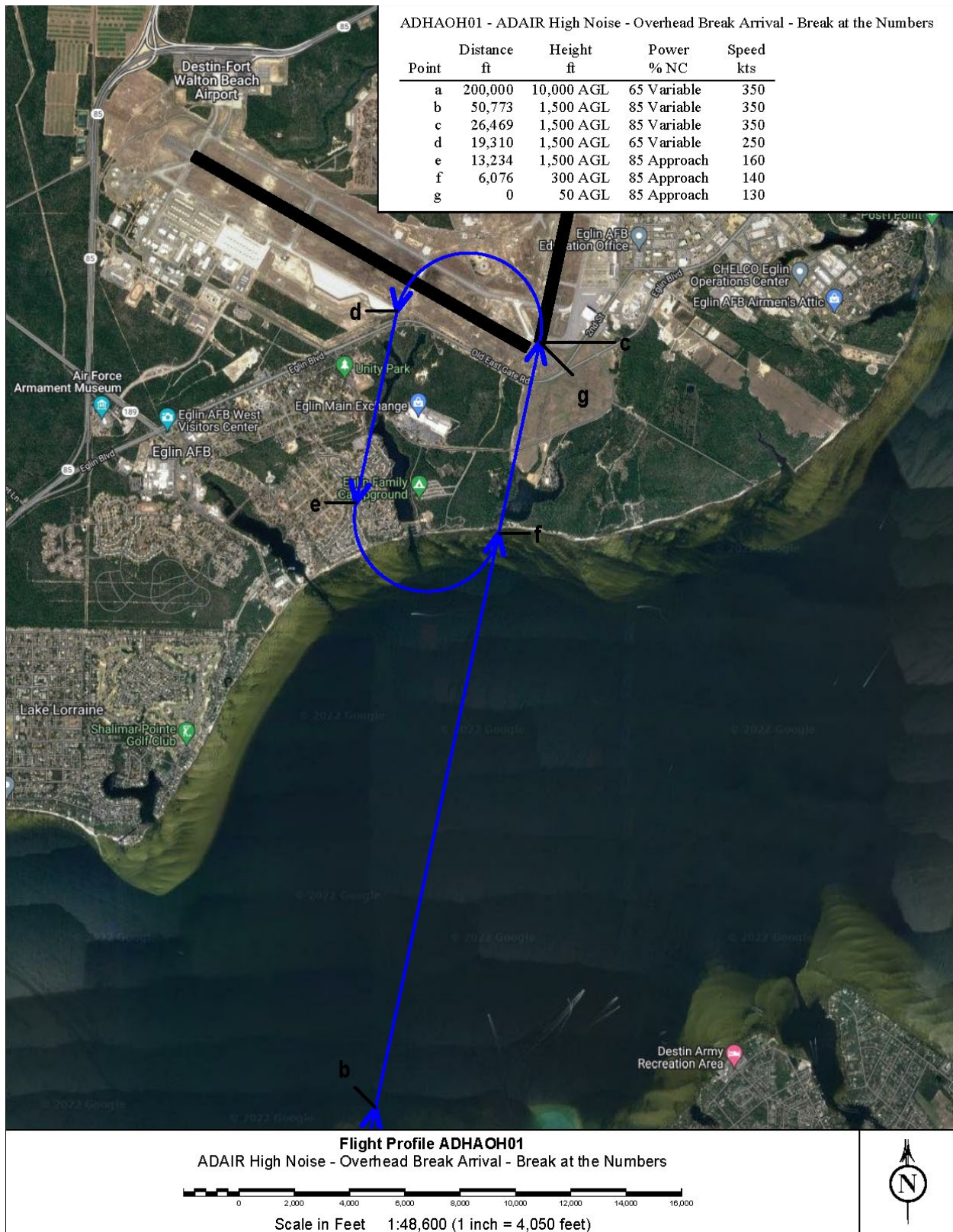
**Supplemental EA for Eglin AFB Combat Air Forces Adversary Air Plus Up  
with F-22 Formal Training Unit  
Final**

**Representative Flight Profiles for Contract Adversary Air Operations out of Eglin Air Force Base**



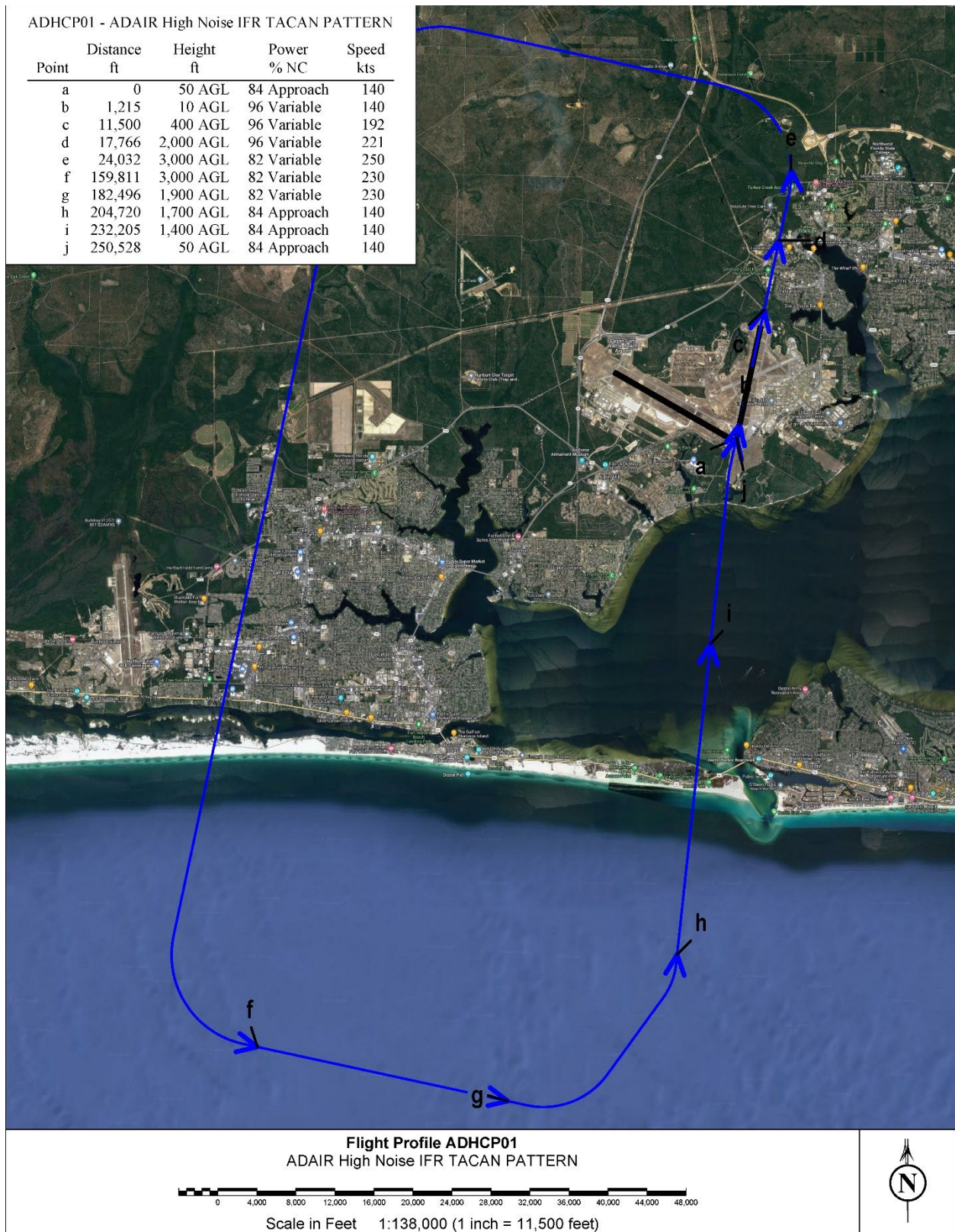


# Supplemental EA for Eglin AFB Combat Air Forces Adversary Air Plus Up with F-22 Formal Training Unit Final



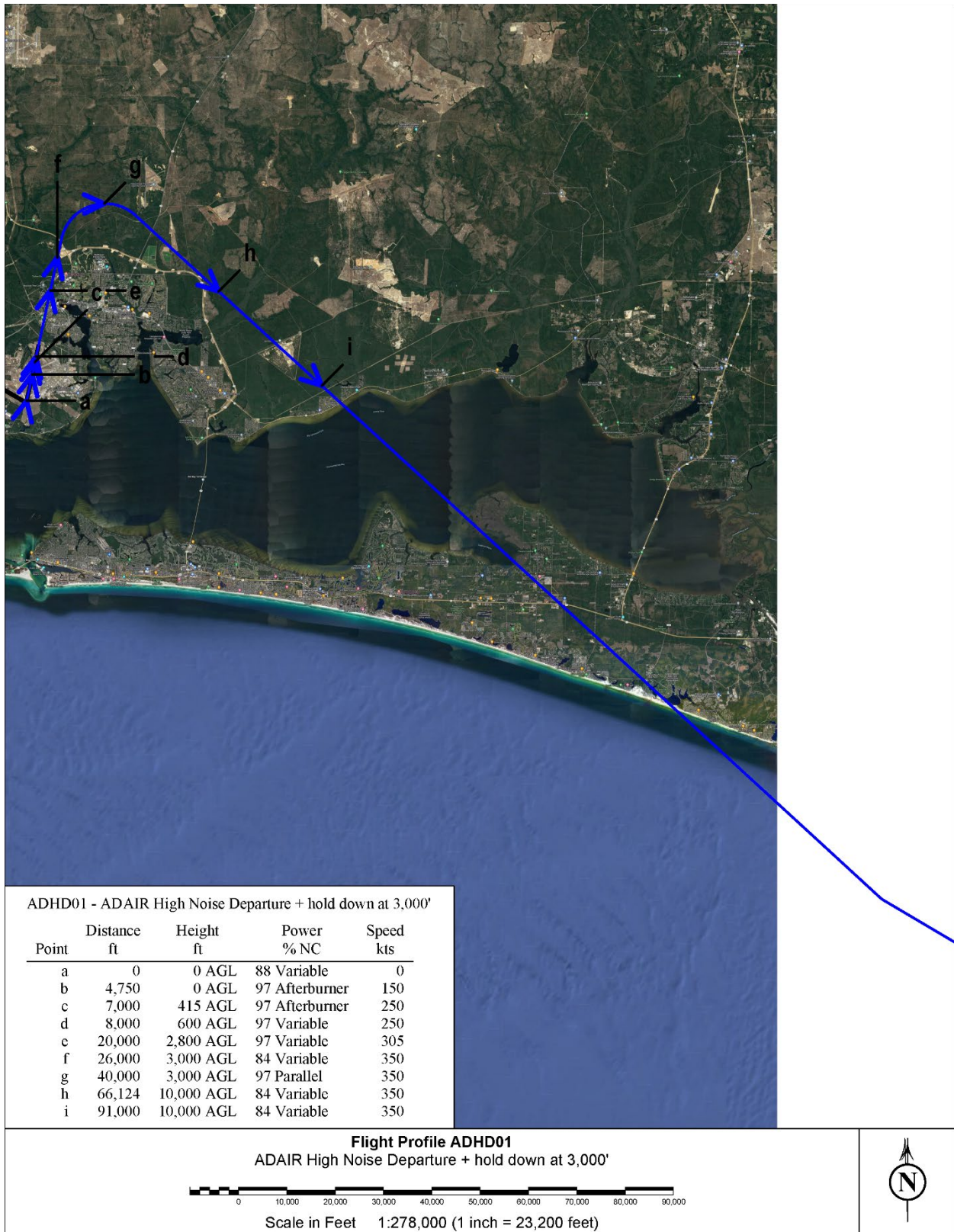


**Supplemental EA for Eglin AFB Combat Air Forces Adversary Air Plus Up  
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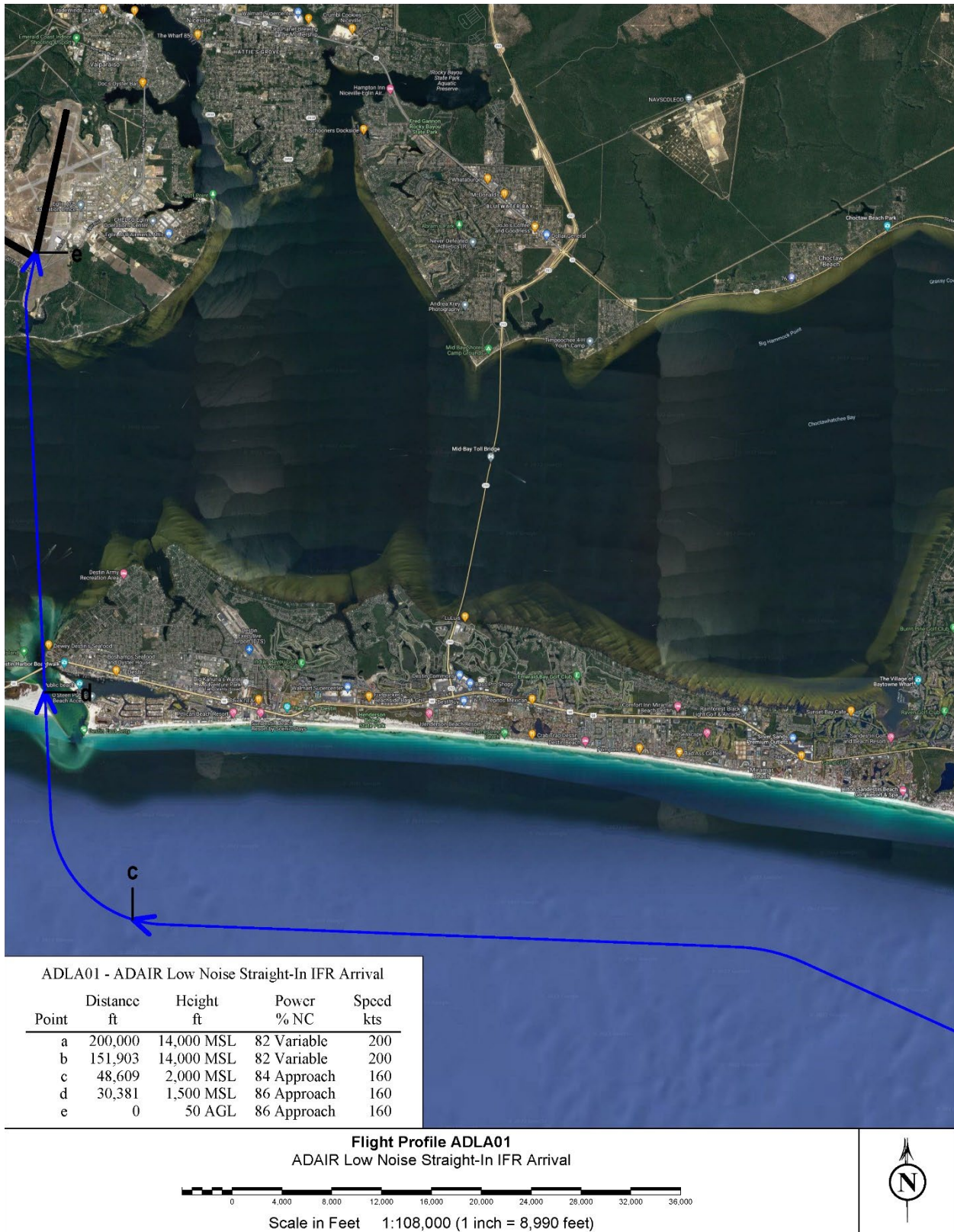




**Supplemental EA for Eglin AFB Combat Air Forces Adversary Air Plus Up  
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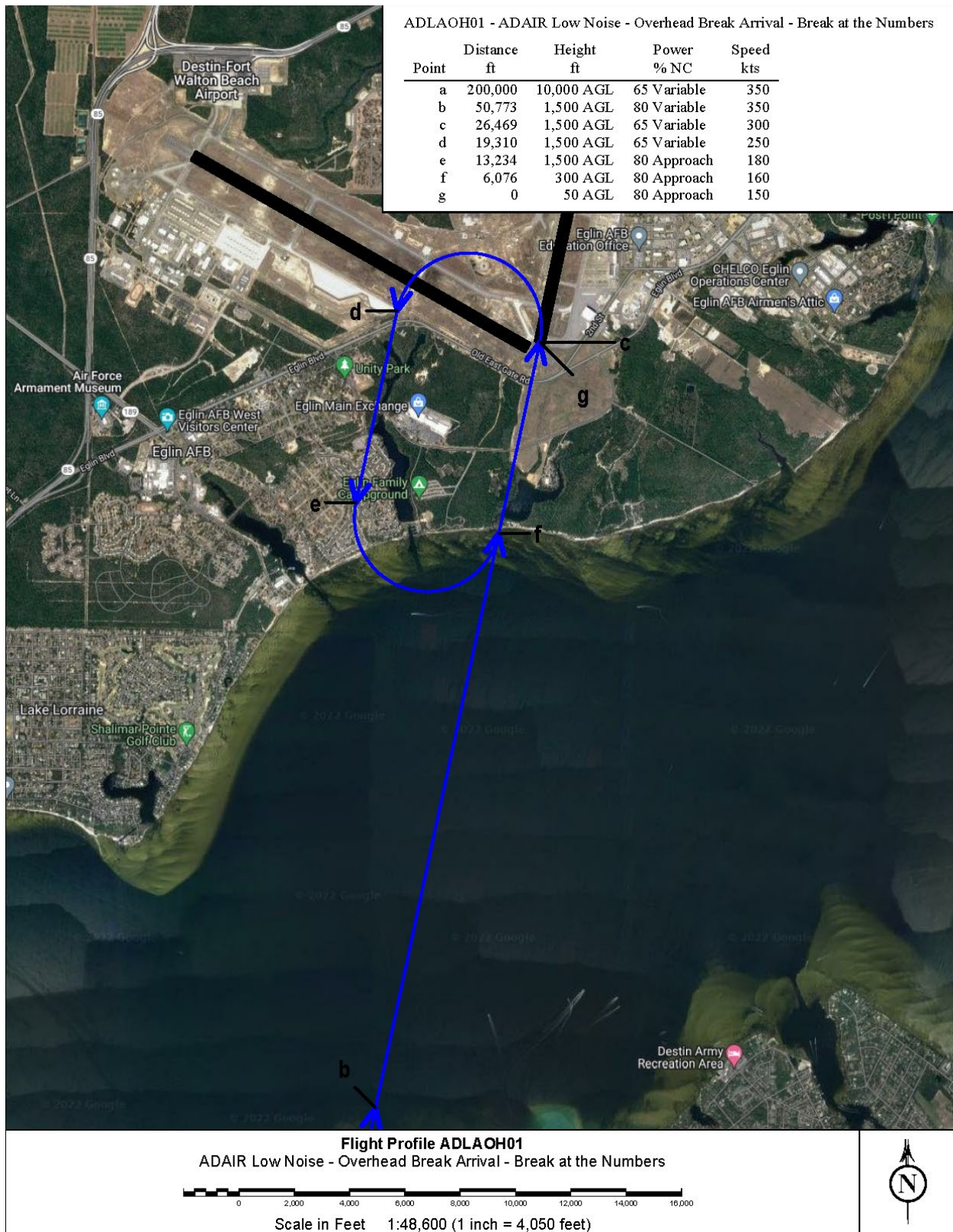


**Supplemental EA for Eglin AFB Combat Air Forces Adversary Air Plus Up  
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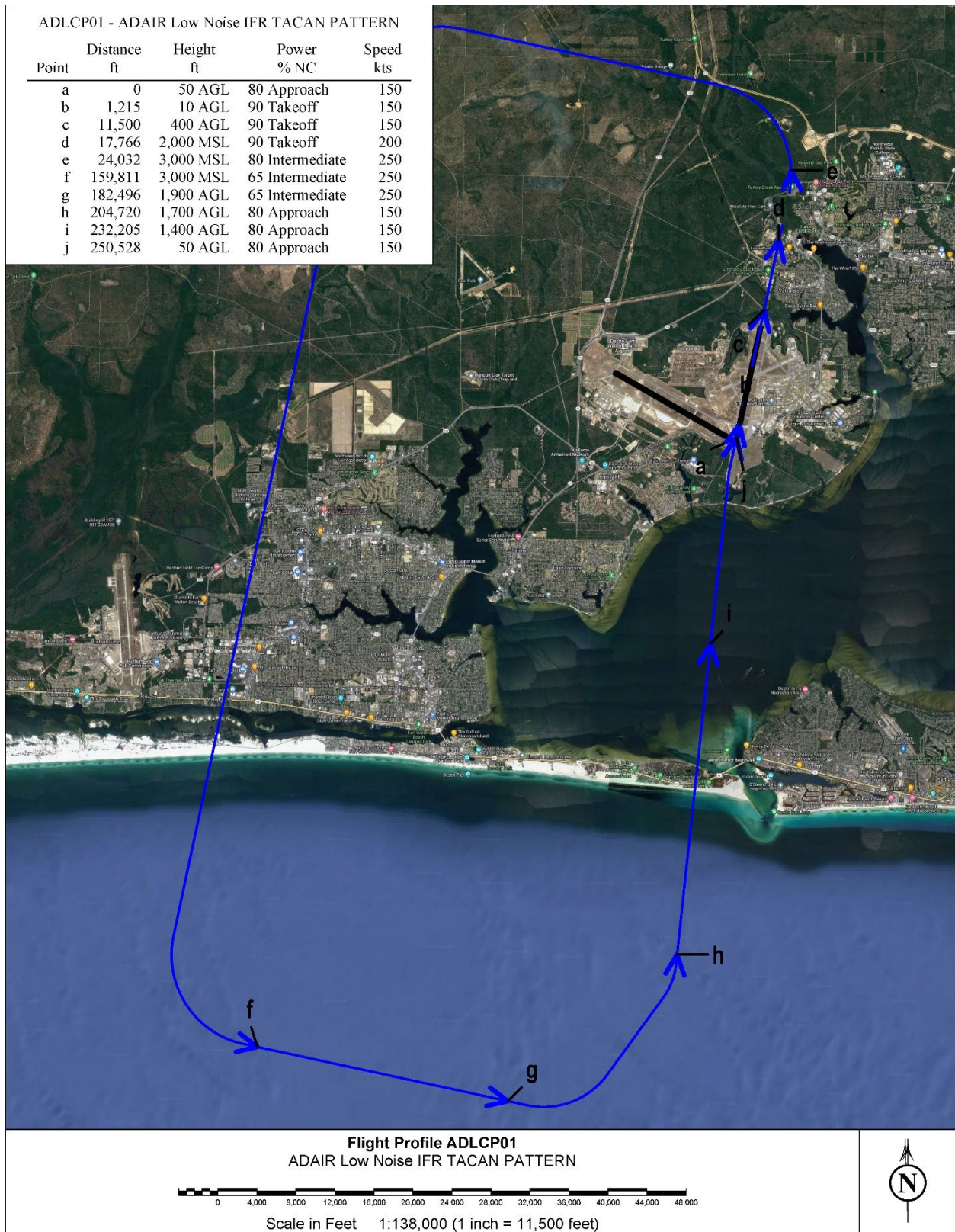


# Supplemental EA for Eglin AFB Combat Air Forces Adversary Air Plus Up with F-22 Formal Training Unit Final



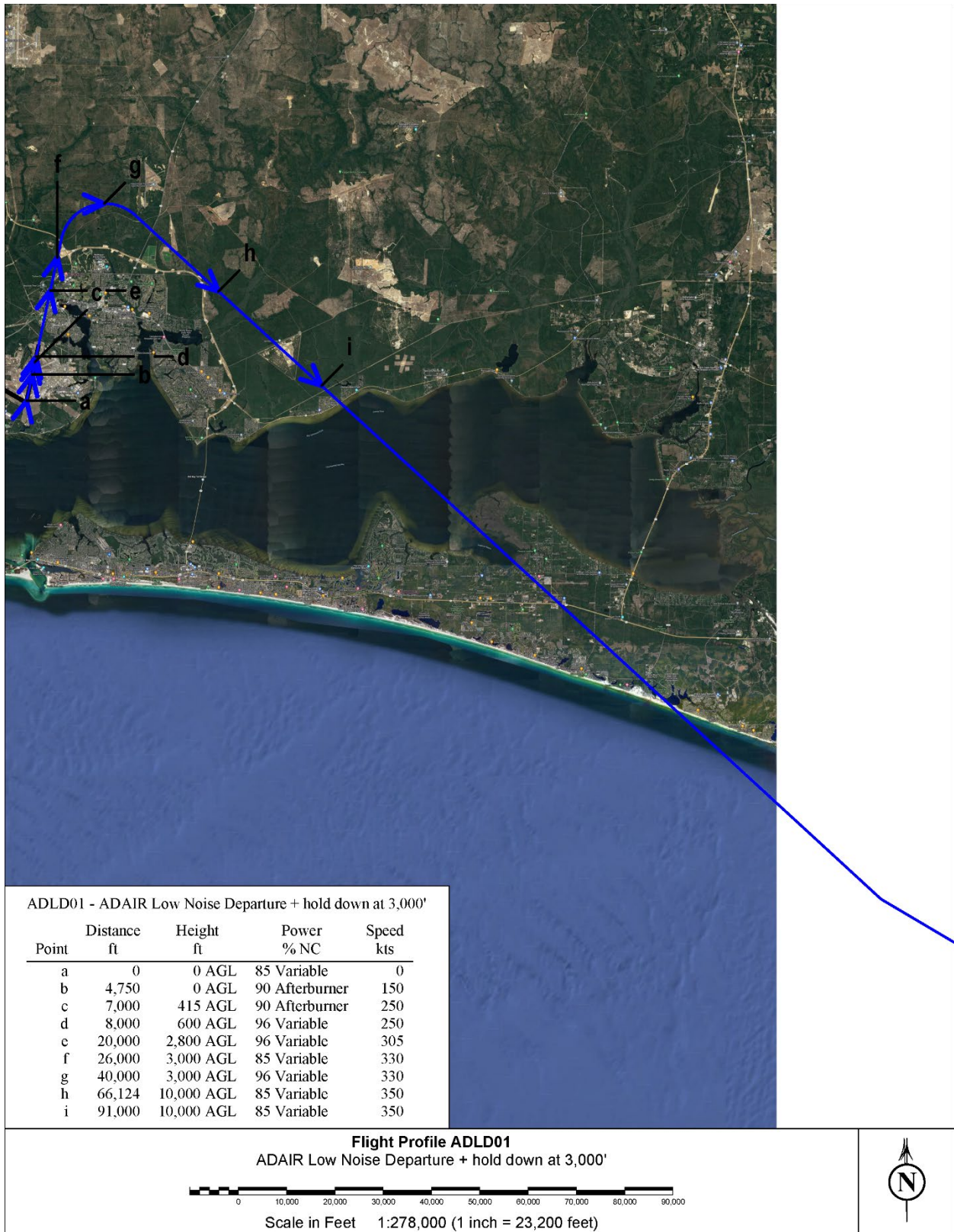


**Supplemental EA for Eglin AFB Combat Air Forces Adversary Air Plus Up  
with F-22 Formal Training Unit  
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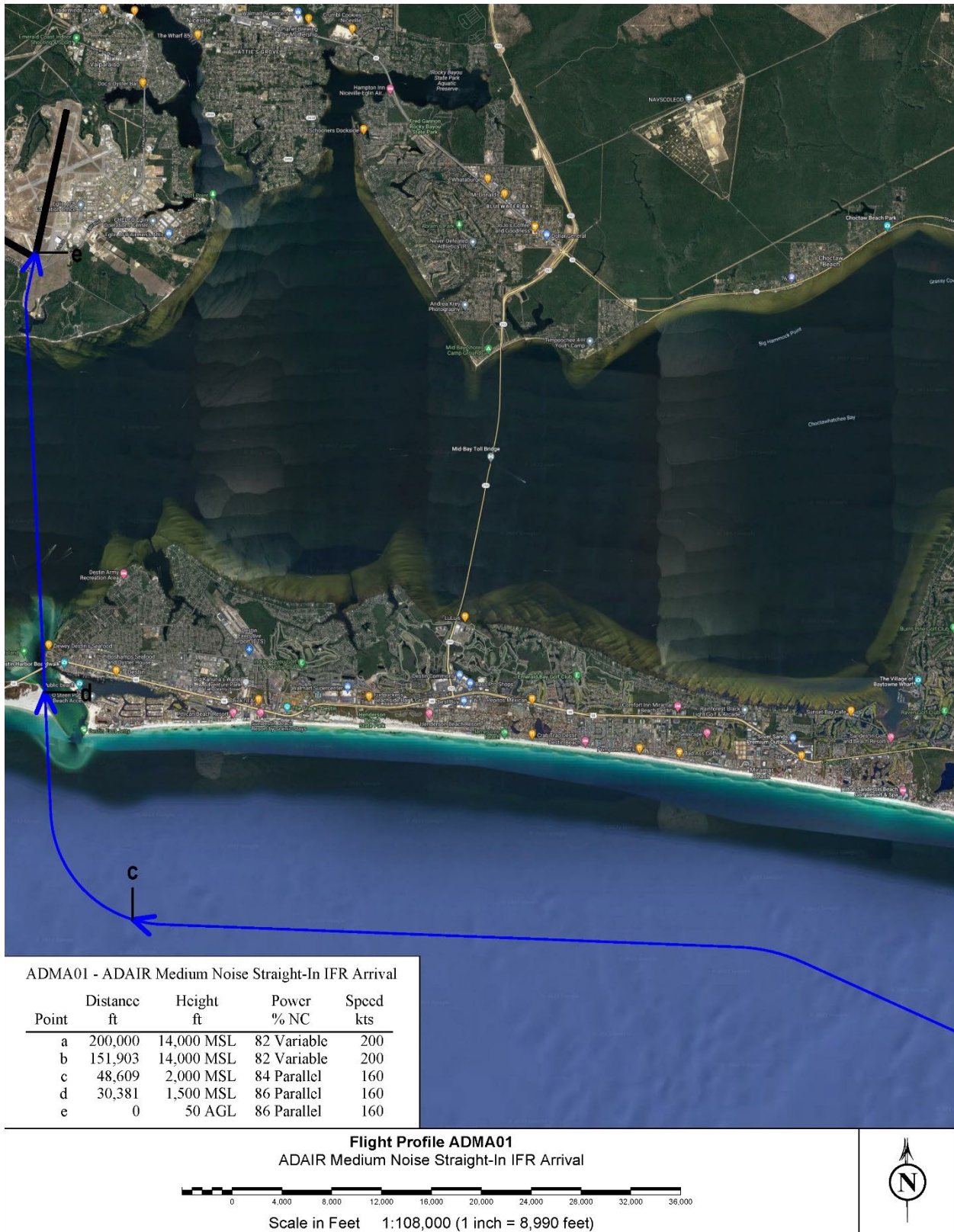


**Supplemental EA for Eglin AFB Combat Air Forces Adversary Air Plus Up  
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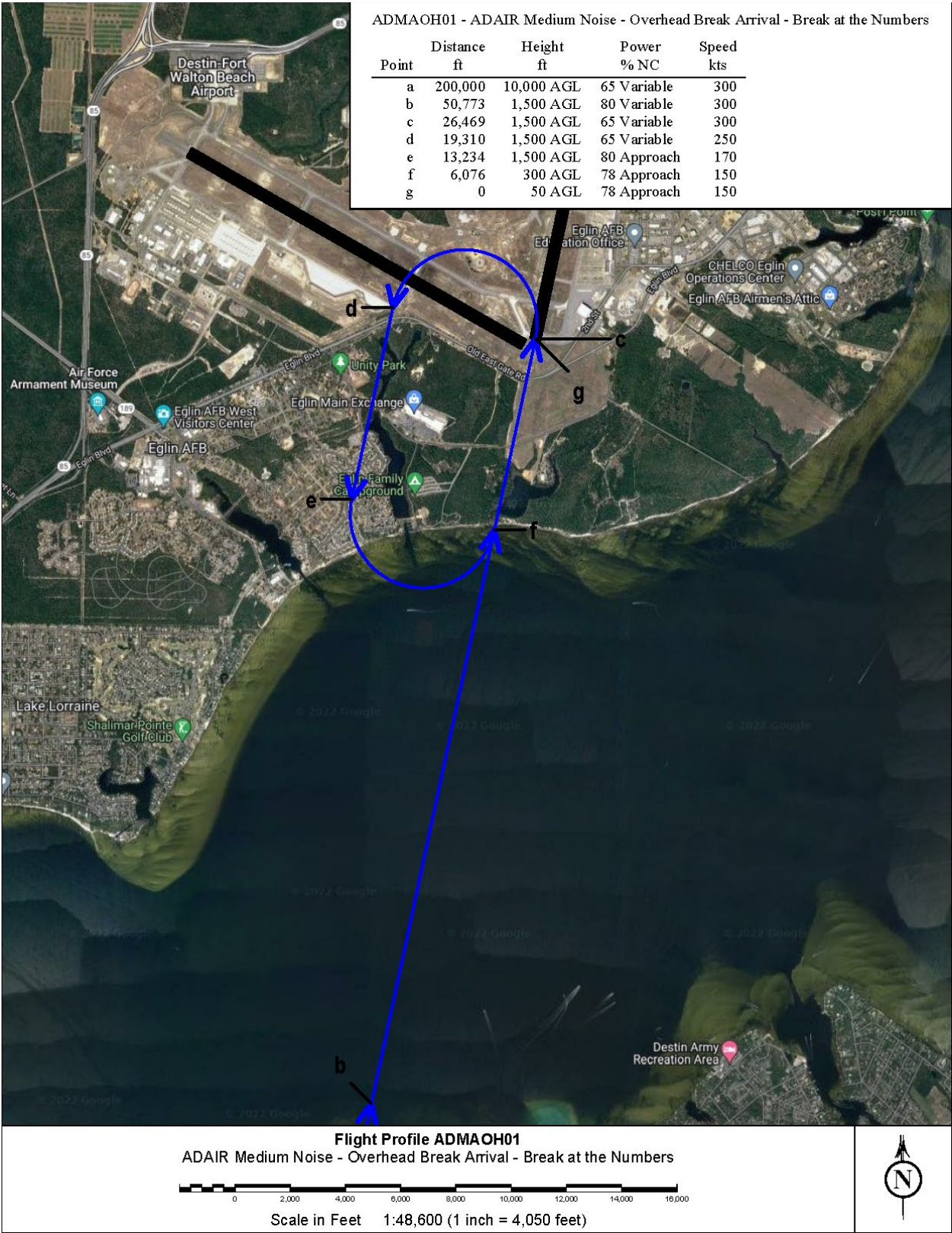


**Supplemental EA for Eglin AFB Combat Air Forces Adversary Air Plus Up  
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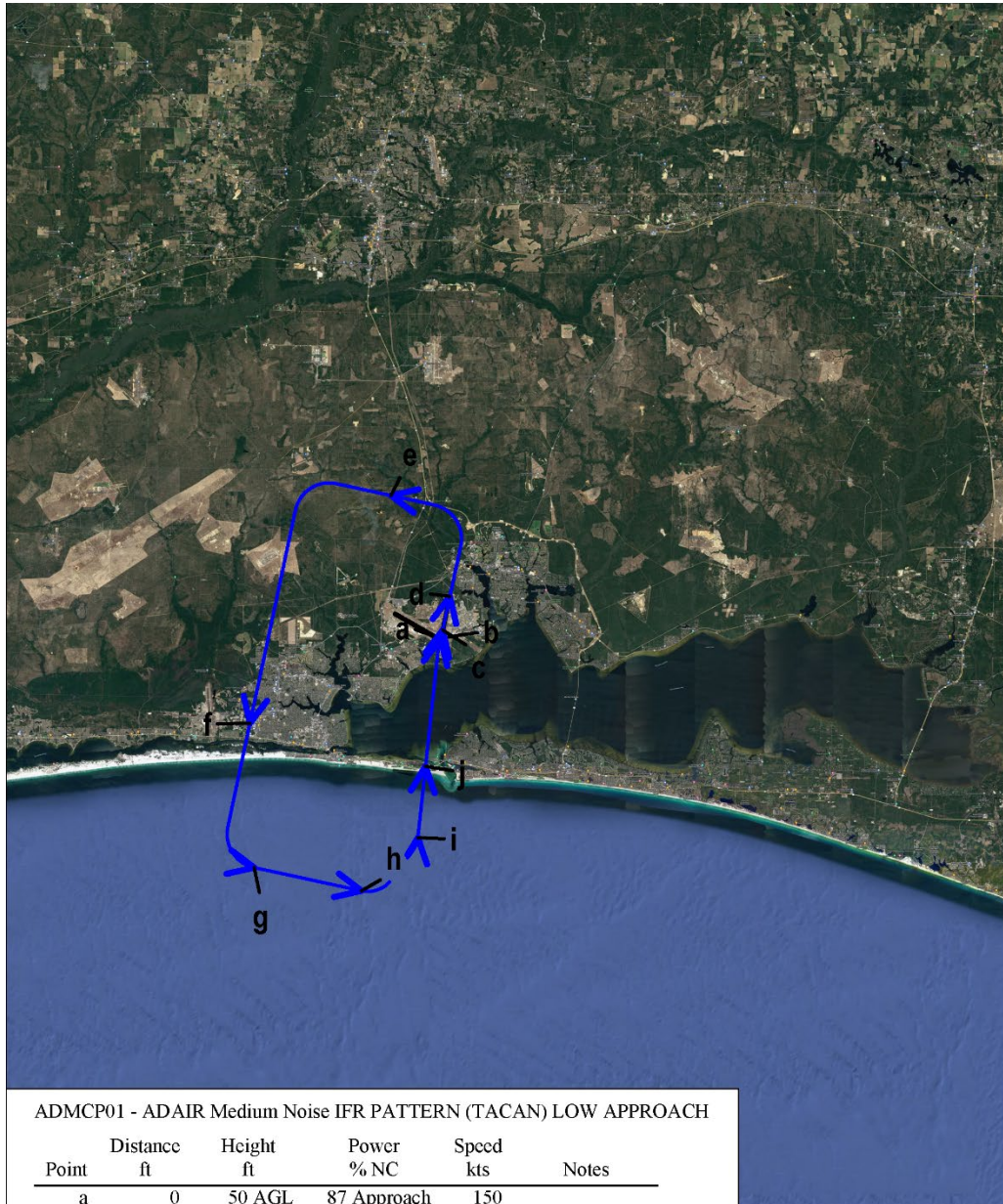


Supplemental EA for Eglin AFB Combat Air Forces Adversary Air Plus Up  
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Final





**Supplemental EA for Eglin AFB Combat Air Forces Adversary Air Plus Up  
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Final**



ADMCP01 - ADAIR Medium Noise IFR PATTERN (TACAN) LOW APPROACH

Point	Distance ft	Height ft	Power % NC	Speed kts	Notes
a	0	50 AGL	87 Approach	150	
b	100	50 AGL	105 Variable	150	mil
c	2,000	100 AGL	105 Variable	180	mil
d	10,000	400 AGL	105 Variable	250	mil
e	44,939	2,900 AGL	83 Variable	250	
f	121,316	2,900 AGL	83 Variable	250	
g	158,499	2,100 AGL	85 Variable	250	
h	184,229	2,100 AGL	83 Variable	220	
i	203,824	1,400 AGL	83 Variable	180	
j	220,528	1,400 AGL	83 Approach	150	GEAR DOWN
k	250,528	50 AGL	87 Approach	150	

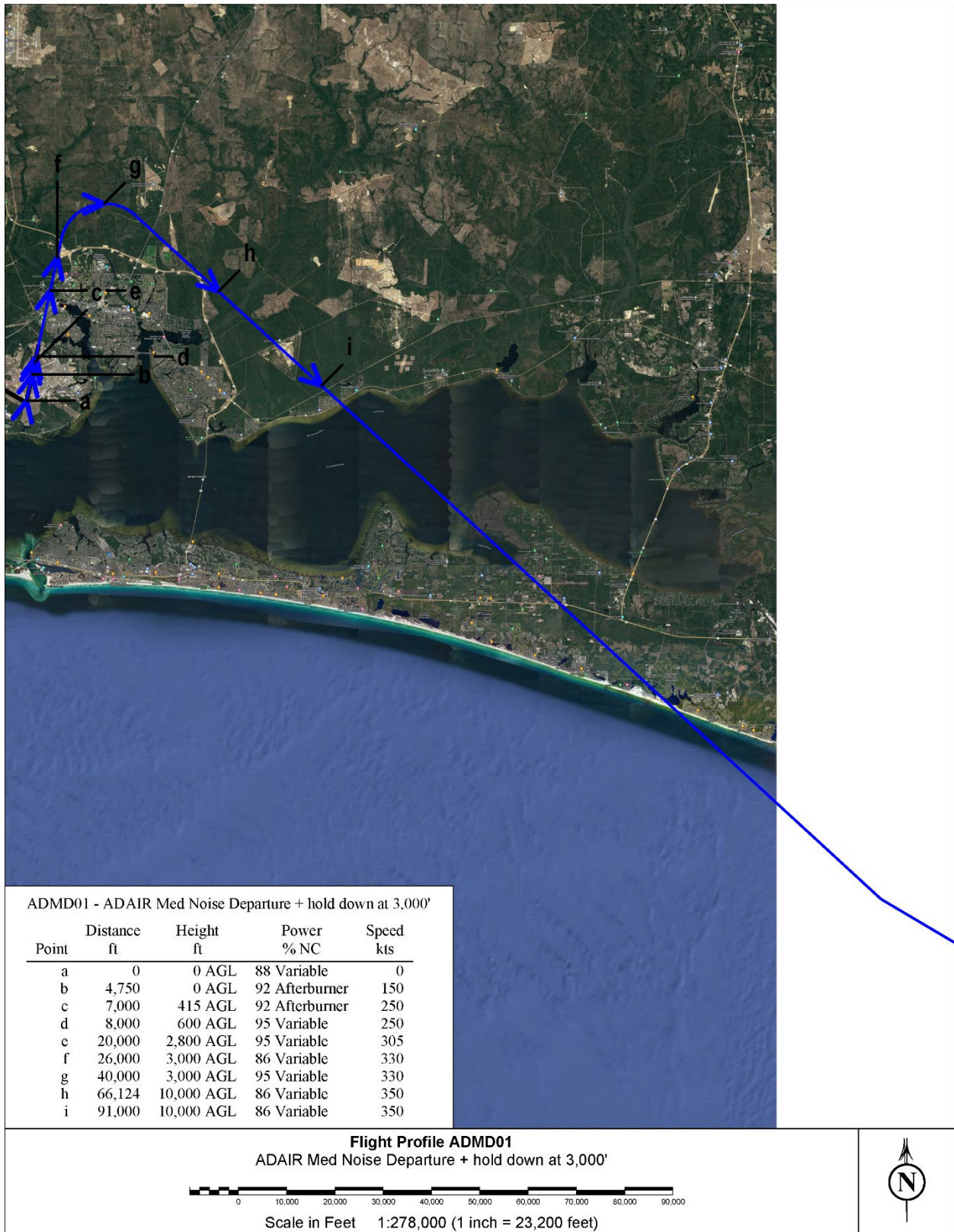
**Flight Profile ADMCP01**  
ADAIR Medium Noise IFR PATTERN (TACAN) LOW APPROACH



Scale in Feet 1:467,000 (1 inch = 38,900 feet)



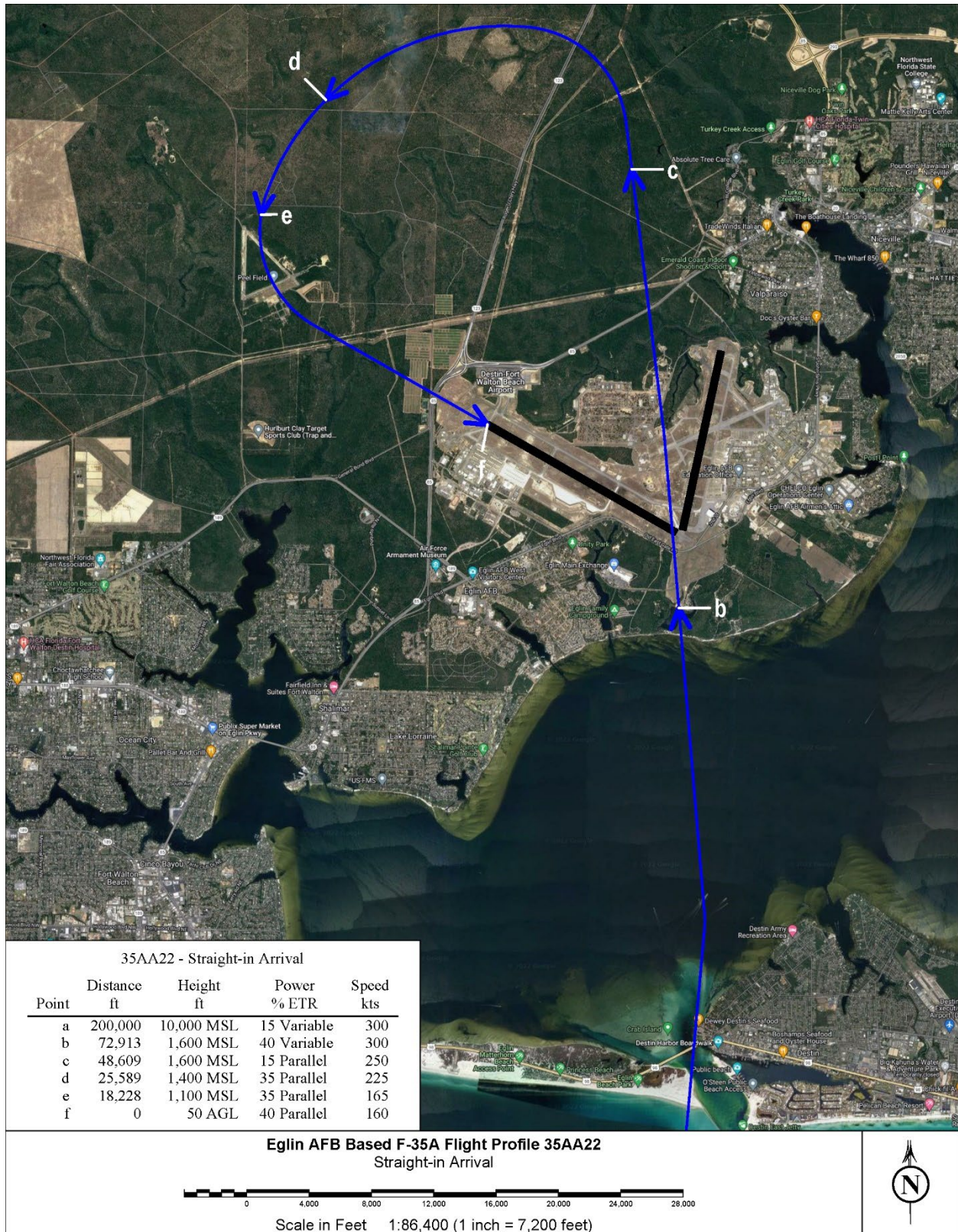
**Supplemental EA for Eglin AFB Combat Air Forces Adversary Air Plus Up  
with F-22 Formal Training Unit  
Final**





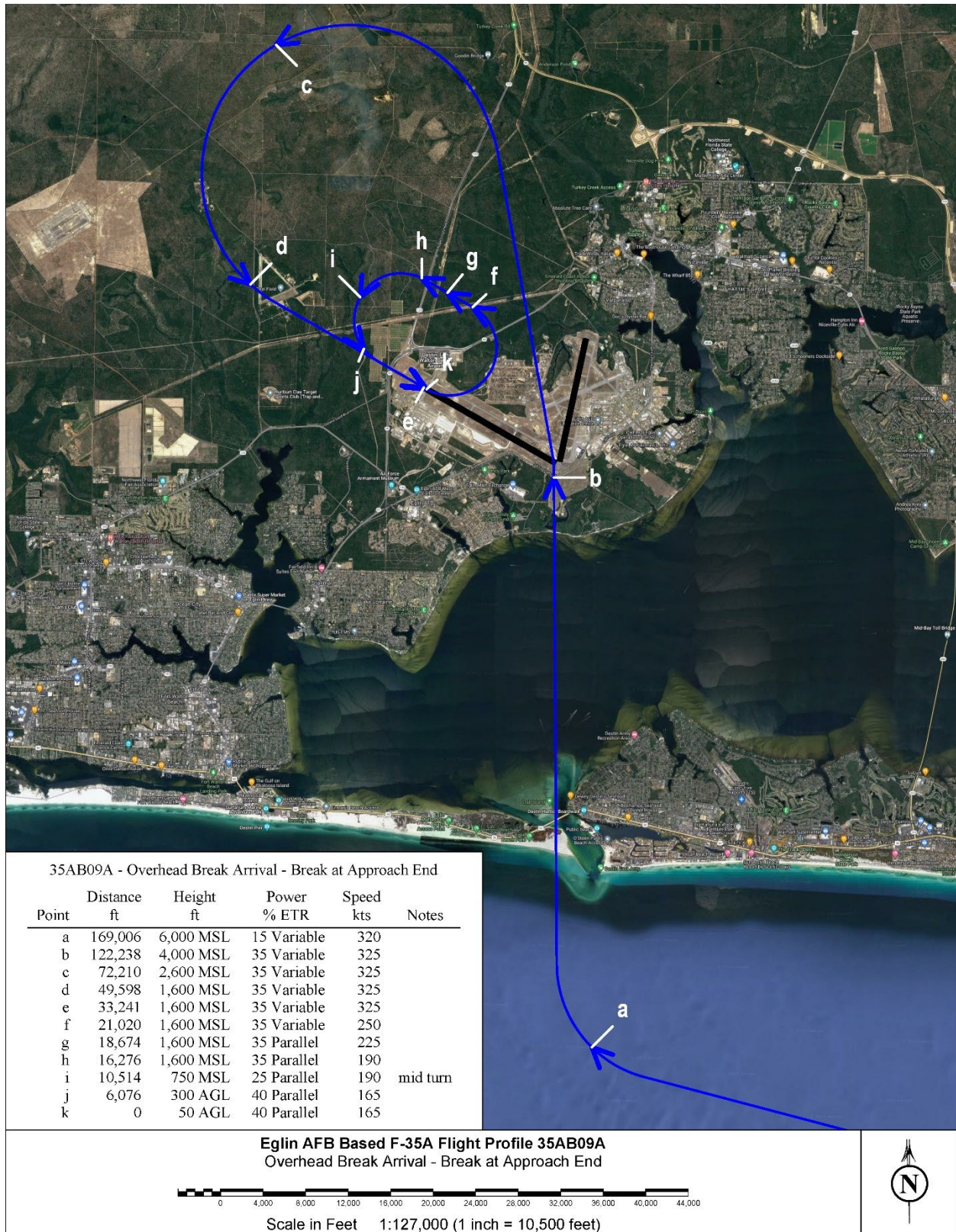
# Supplemental EA for Eglin AFB Combat Air Forces Adversary Air Plus Up with F-22 Formal Training Unit Final

## Representative Flight Profiles for F-35A Operations out of Eglin Air Force Base



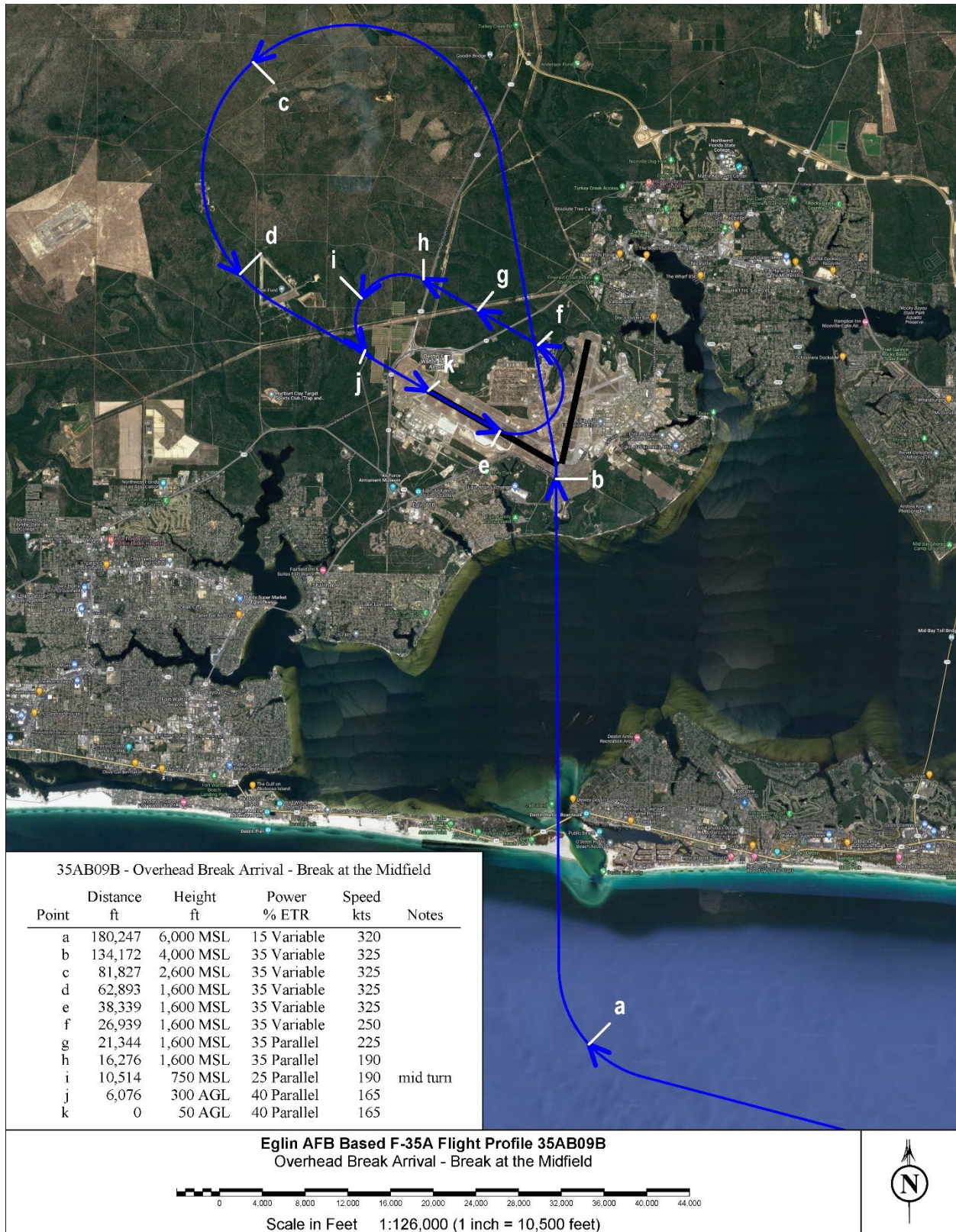


**Supplemental EA for Eglin AFB Combat Air Forces Adversary Air Plus Up  
with F-22 Formal Training Unit  
Final**



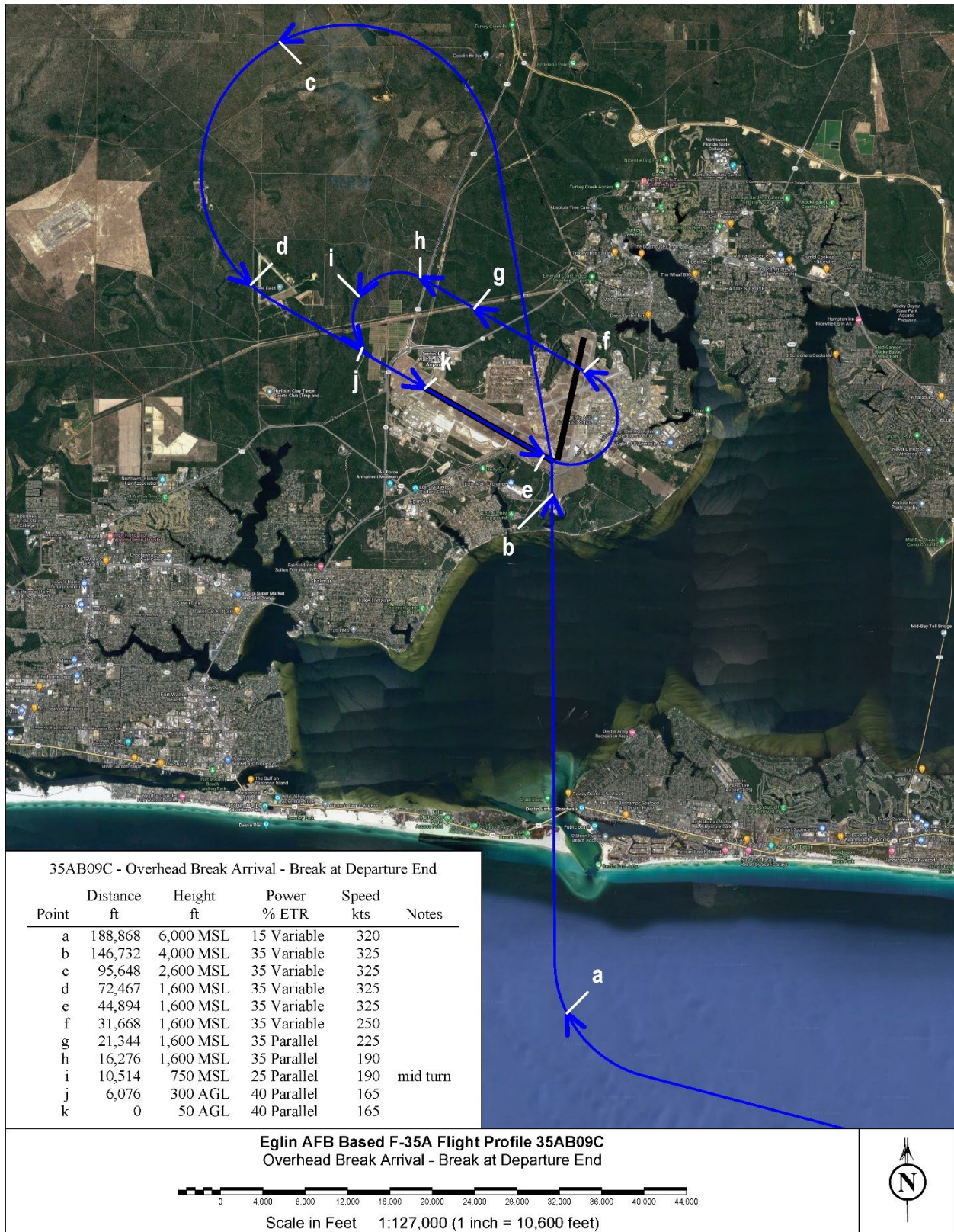


**Supplemental EA for Eglin AFB Combat Air Forces Adversary Air Plus Up  
with F-22 Formal Training Unit  
Final**



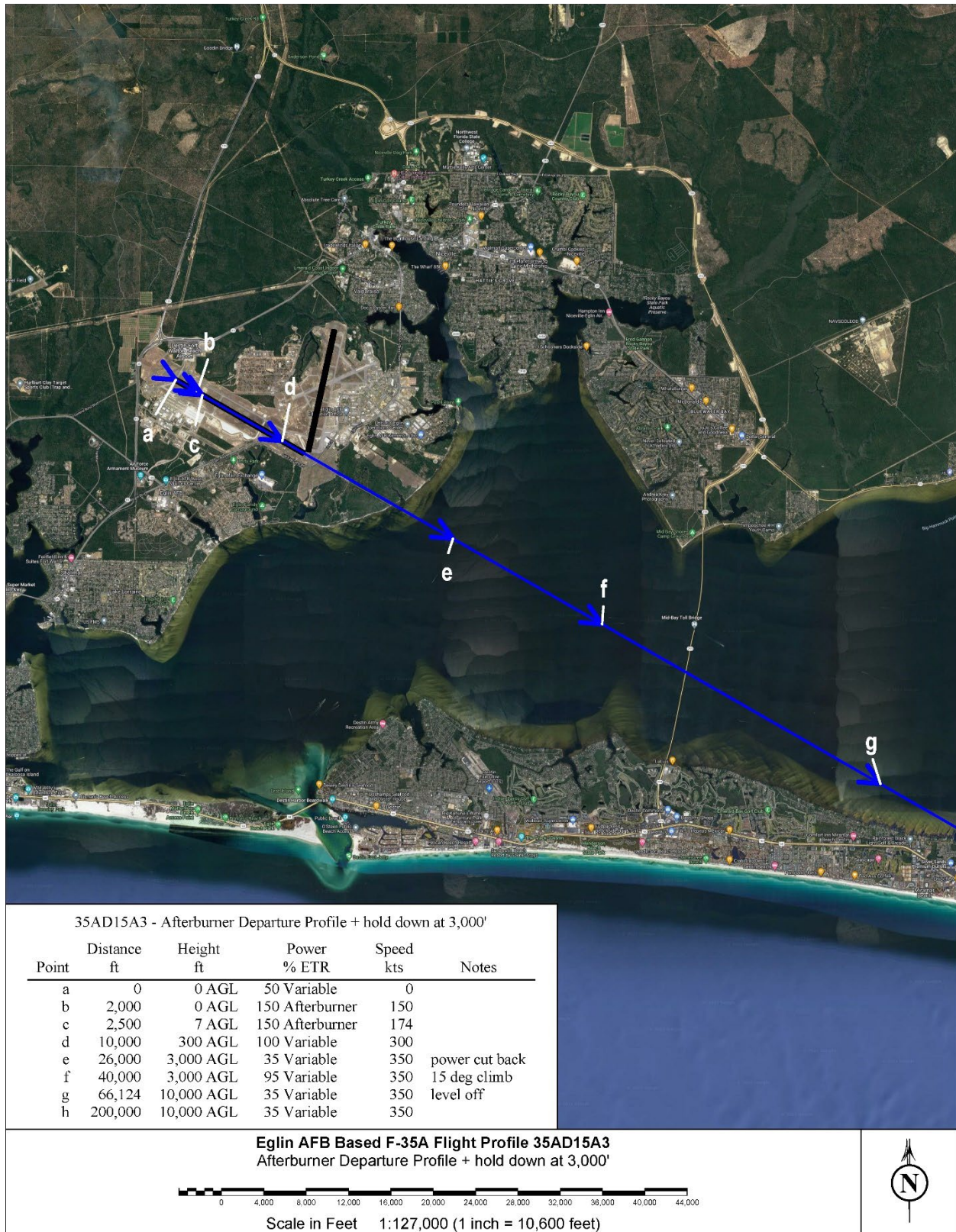


**Supplemental EA for Eglin AFB Combat Air Forces Adversary Air Plus Up  
with F-22 Formal Training Unit  
Final**



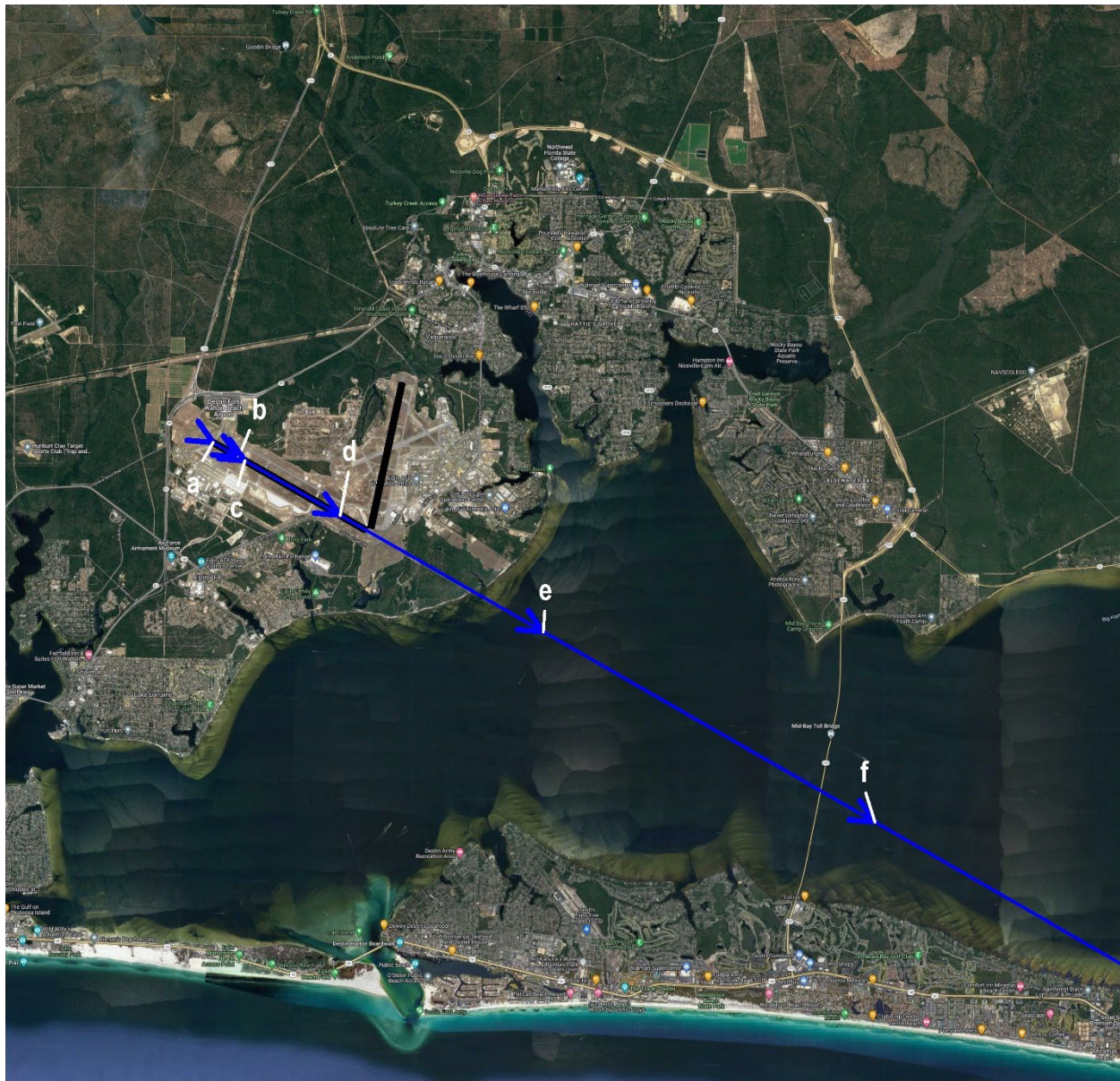


**Supplemental EA for Eglin AFB Combat Air Forces Adversary Air Plus Up  
with F-22 Formal Training Unit  
Final**





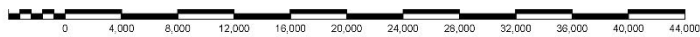
**Supplemental EA for Eglin AFB Combat Air Forces Adversary Air Plus Up  
with F-22 Formal Training Unit  
Final**



**35AD15AU - Afterburner Departure Profile**

Point	Distance ft	Height ft	Power % ETR	Speed kts	Notes
a	0	0 AGL	50 Variable	0	
b	2,000	0 AGL	150 Afterburner	150	
c	2,500	7 AGL	150 Afterburner	174	
d	10,000	300 AGL	100 Variable	300	
e	26,000	3,000 AGL	95 Variable	350	15 deg climb
f	52,124	10,000 AGL	35 Variable	350	level off
g	200,000	10,000 AGL	35 Variable	350	

**Eglin AFB Based F-35A Flight Profile 35AD15AU  
Afterburner Departure Profile**



Scale in Feet 1:125,000 (1 inch = 10,400 feet)



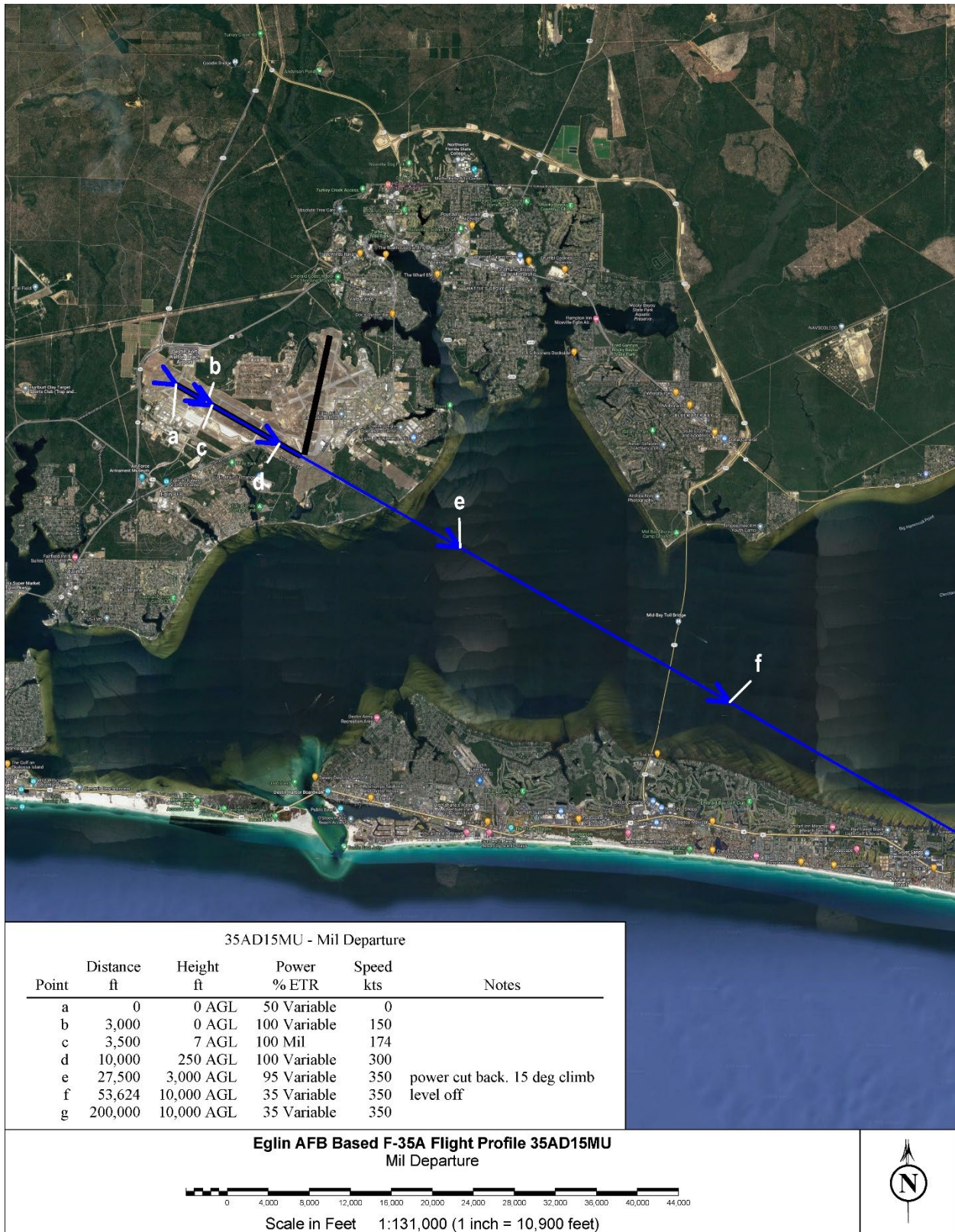


**Supplemental EA for Eglin AFB Combat Air Forces Adversary Air Plus Up  
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Final**



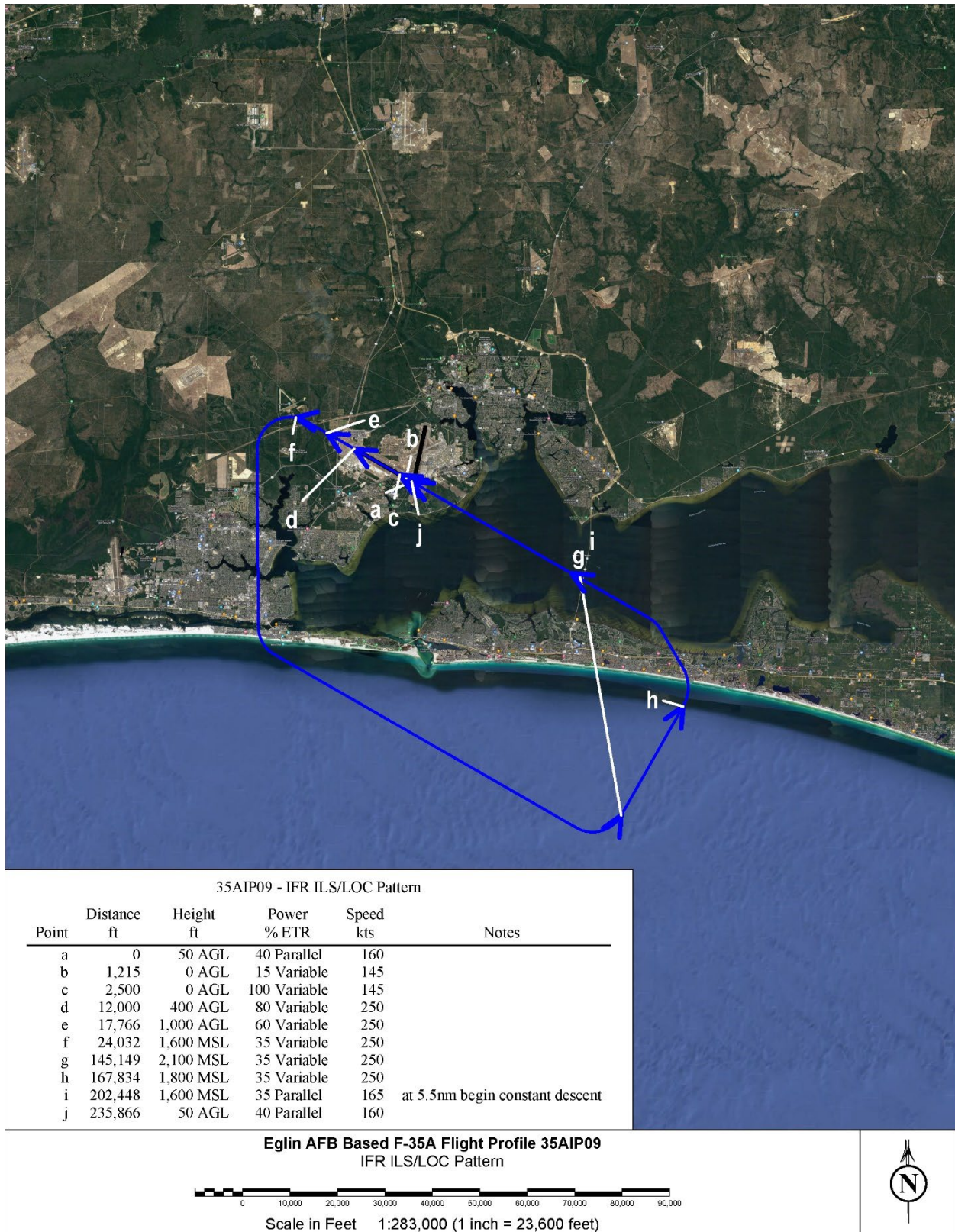


**Supplemental EA for Eglin AFB Combat Air Forces Adversary Air Plus Up  
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Final**



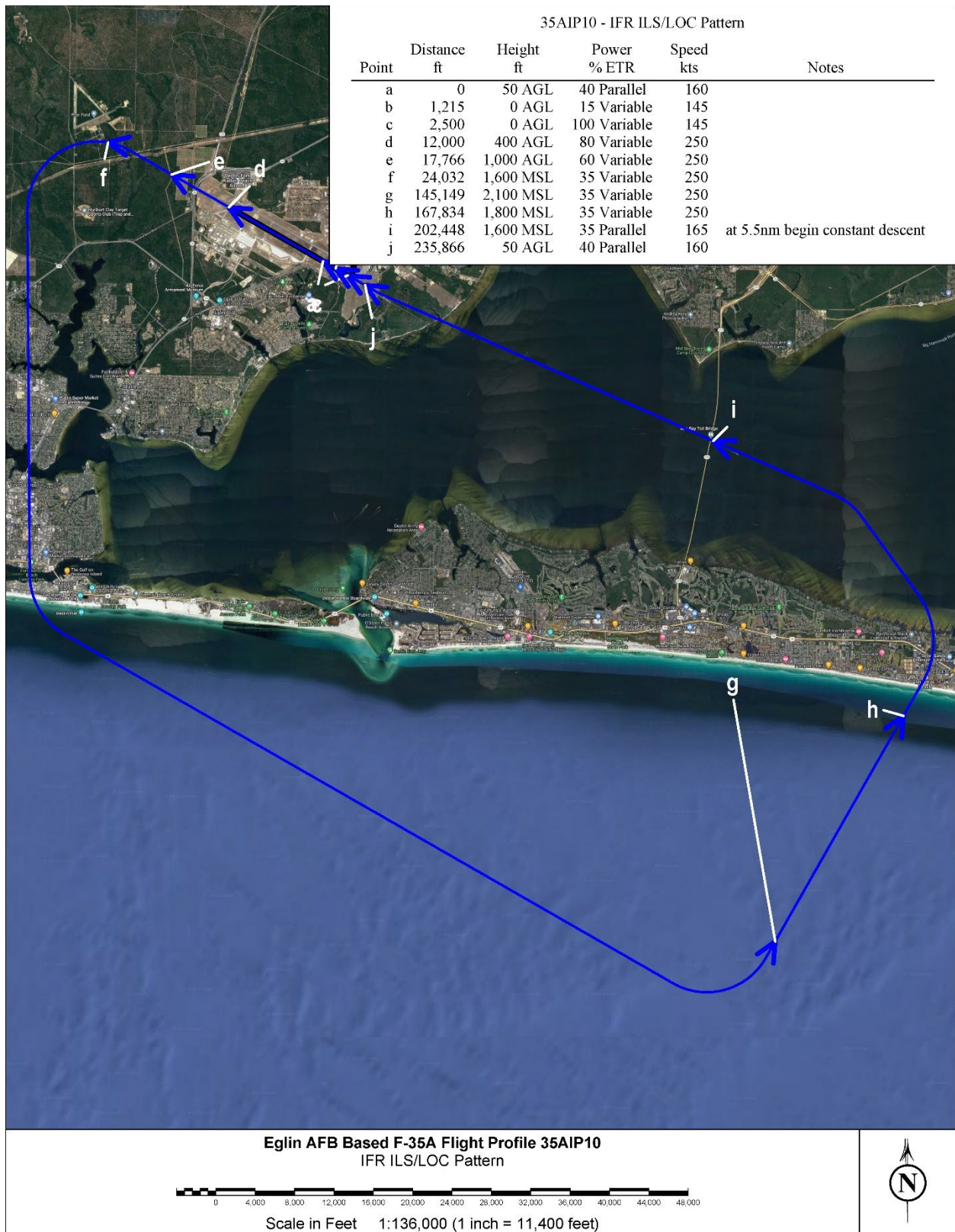


**Supplemental EA for Eglin AFB Combat Air Forces Adversary Air Plus Up  
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Final**



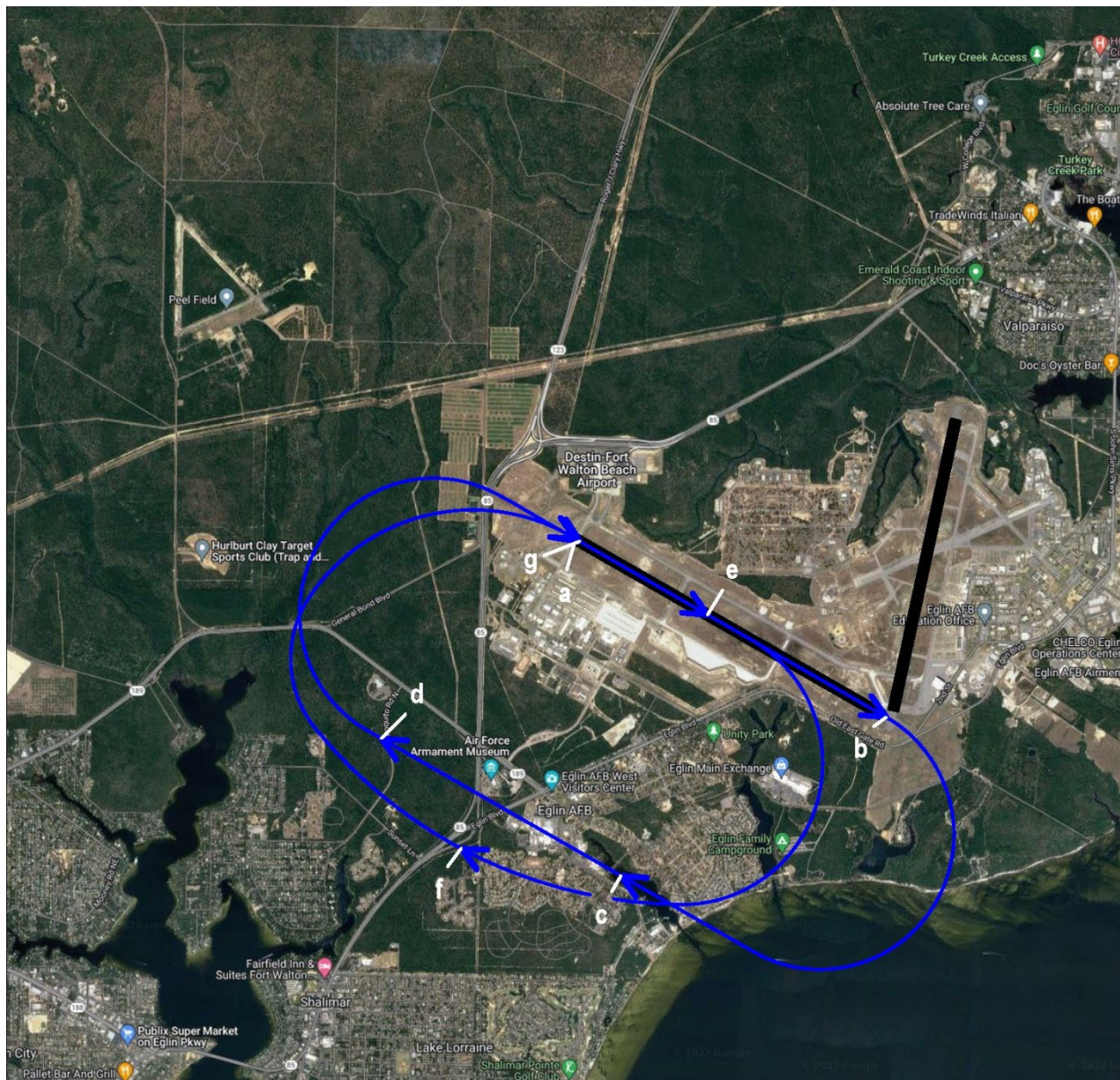


**Supplemental EA for Eglin AFB Combat Air Forces Adversary Air Plus Up  
with F-22 Formal Training Unit  
Final**





# Supplemental EA for Eglin AFB Combat Air Forces Adversary Air Plus Up with F-22 Formal Training Unit Final



35ASP03 - SFO Pattern

Point	Distance ft	Height ft	Power % ETR	Speed kts	Notes
a	0	100 AGL	100 Variable	225	
b	12,152	500 AGL	100 Variable	300	25 deg climb
c	31,656	10,000 AGL	35 Variable	250	reach pattern altitude; reduce thrust
d	41,027	10,000 AGL	35 Variable	250	begin turn to high key
e	64,000	10,000 AGL	15 Parallel	220	high key; 17 deg gs; matches SFO break arrival from this point to runway
f	86,079	5,500 AGL	15 Parallel	220	12 deg gs
g	107,651	100 AGL	15 Parallel	225	

Eglin AFB Based F-35A Flight Profile 35ASP03  
SFO Pattern

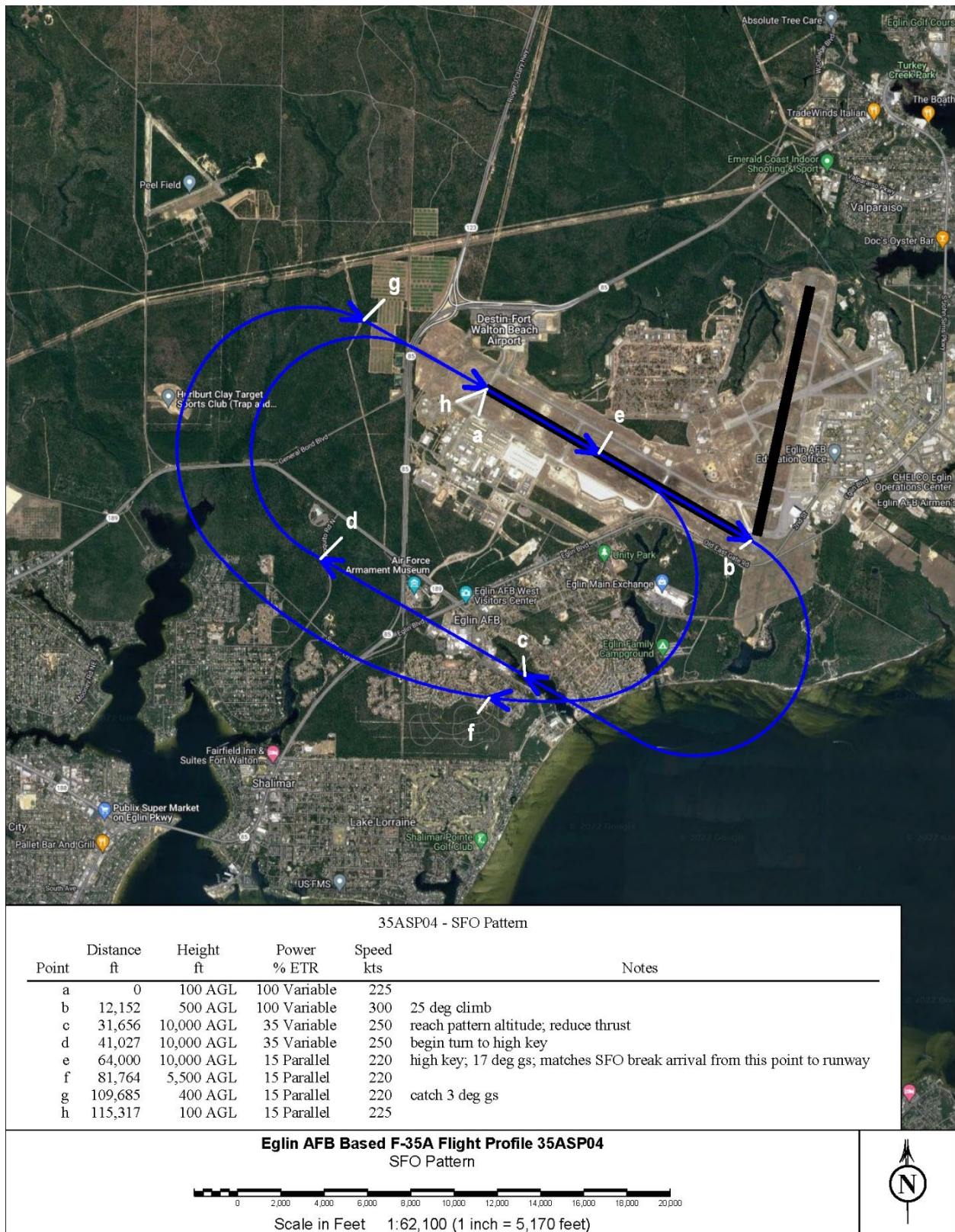


Scale in Feet 1:62,100 (1 inch = 5,170 feet)



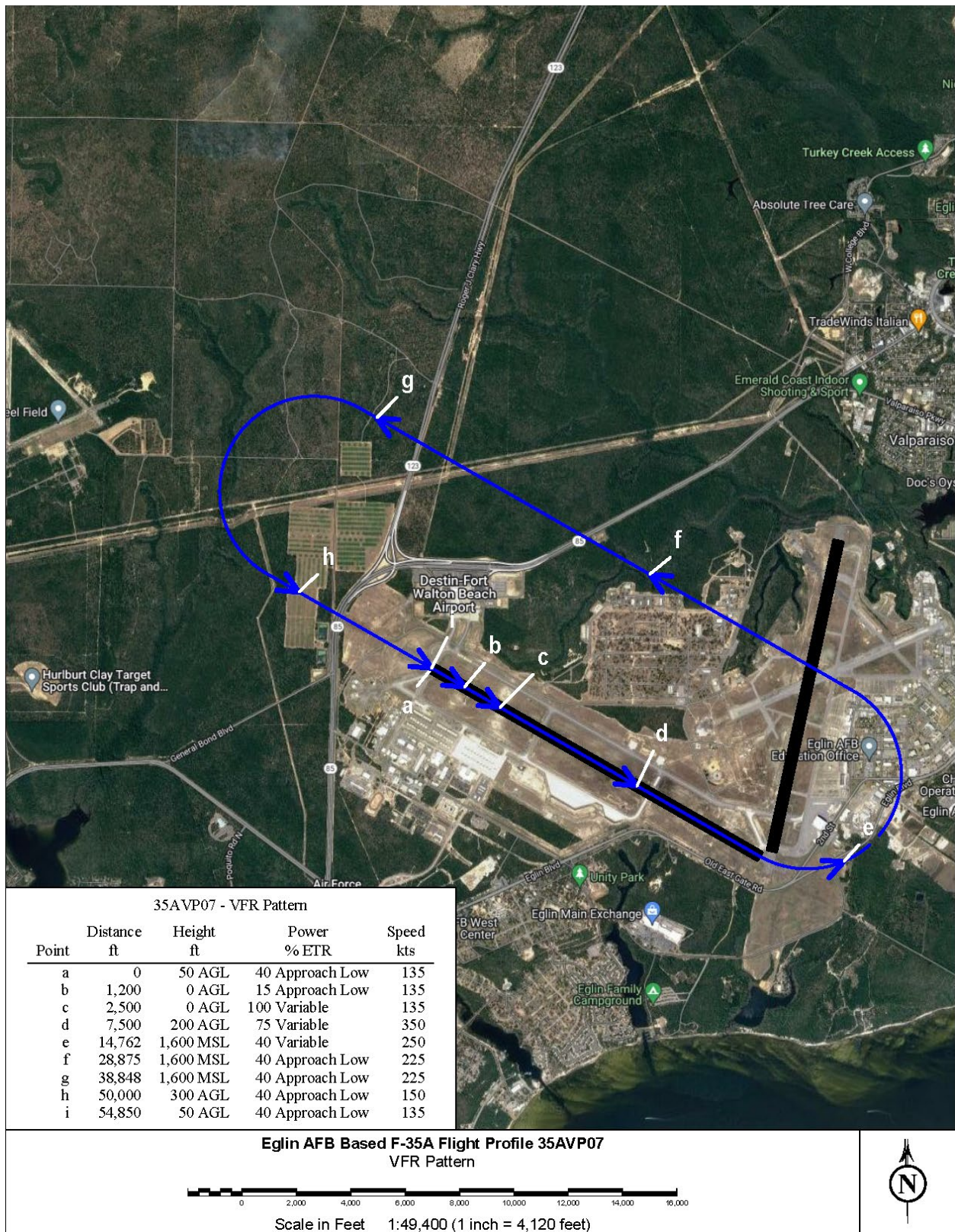


# Supplemental EA for Eglin AFB Combat Air Forces Adversary Air Plus Up with F-22 Formal Training Unit Final



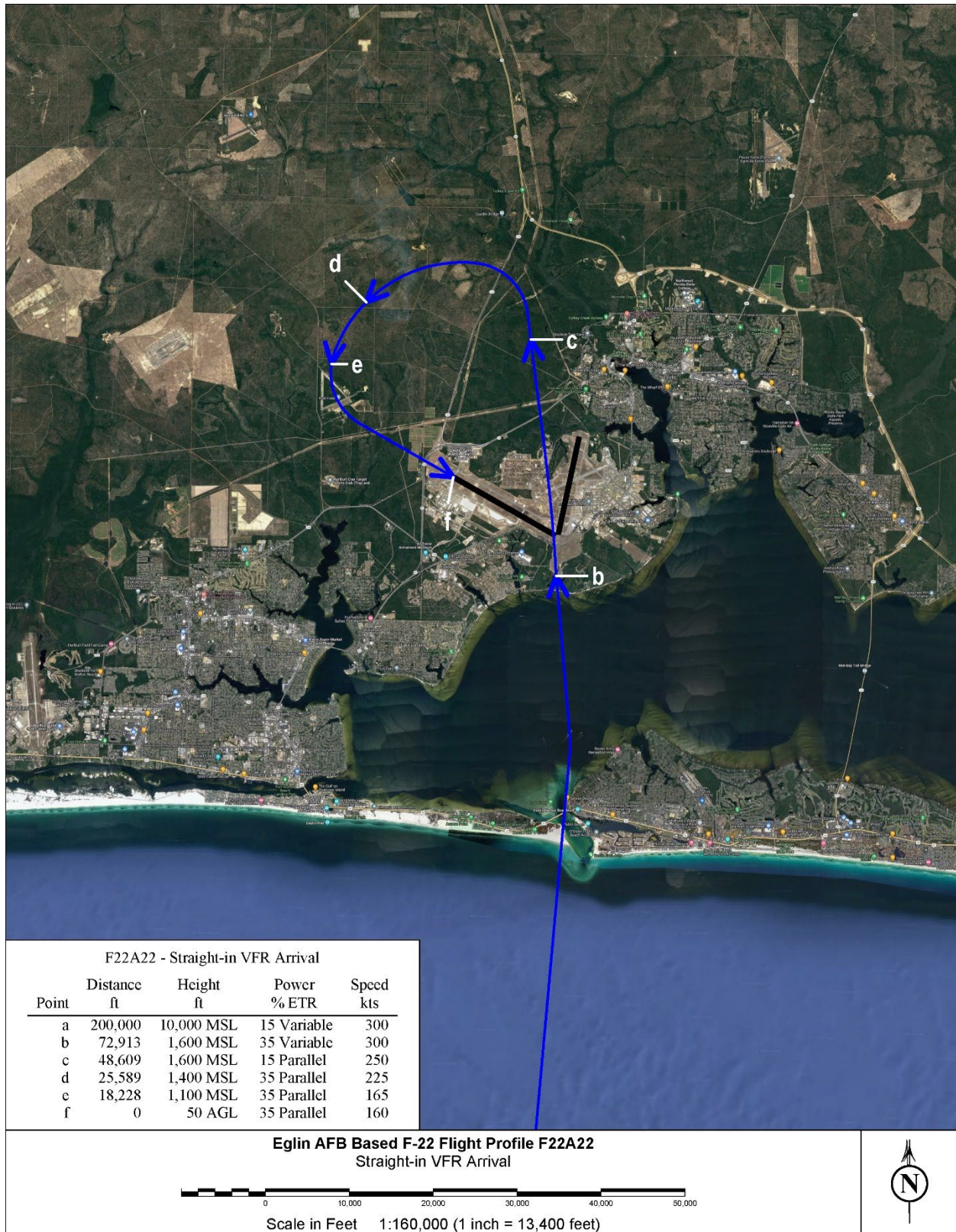


**Supplemental EA for Eglin AFB Combat Air Forces Adversary Air Plus Up  
with F-22 Formal Training Unit  
Final**



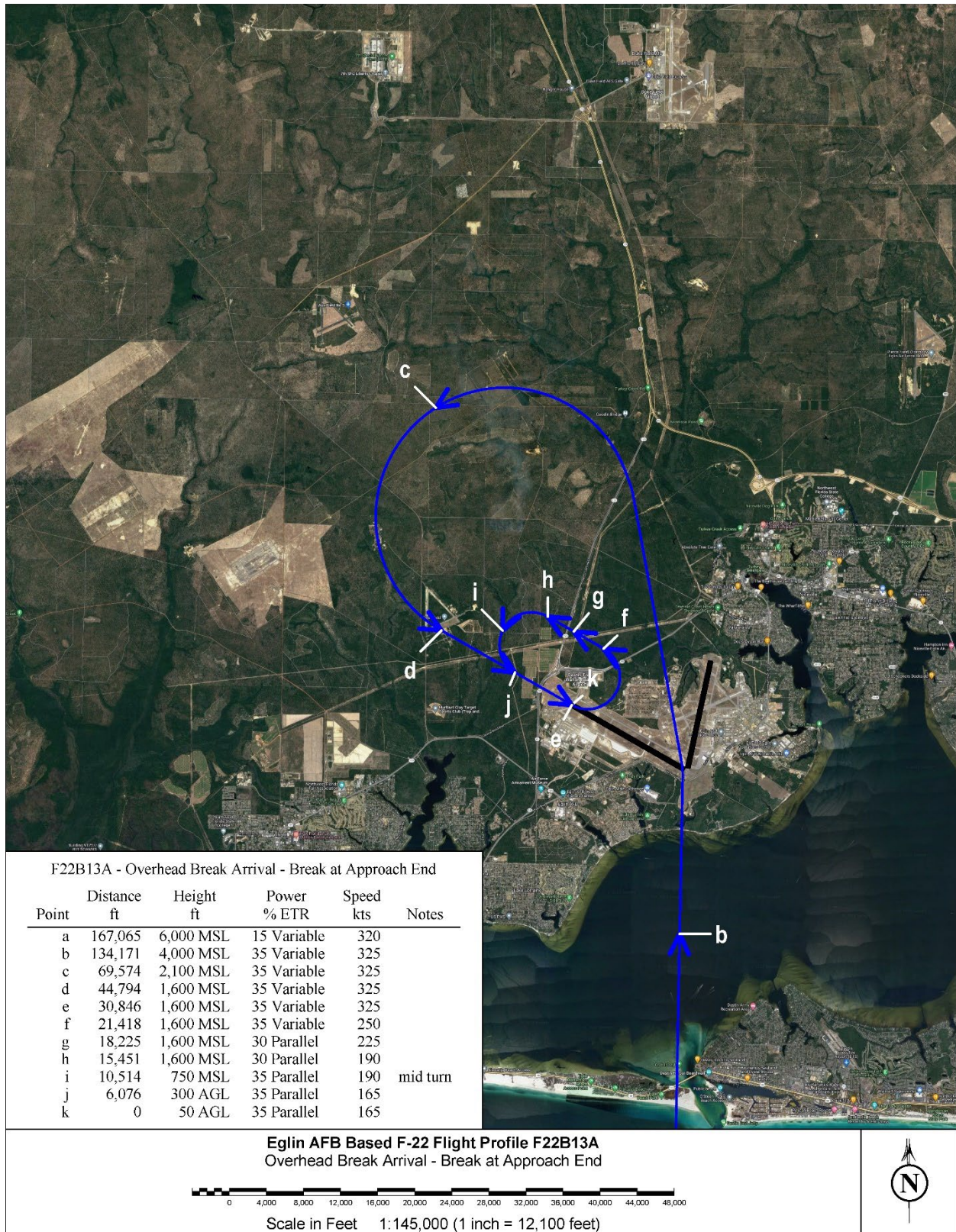


**Representative Flight Profiles for F-22 Operations out of Eglin Air Force Base**



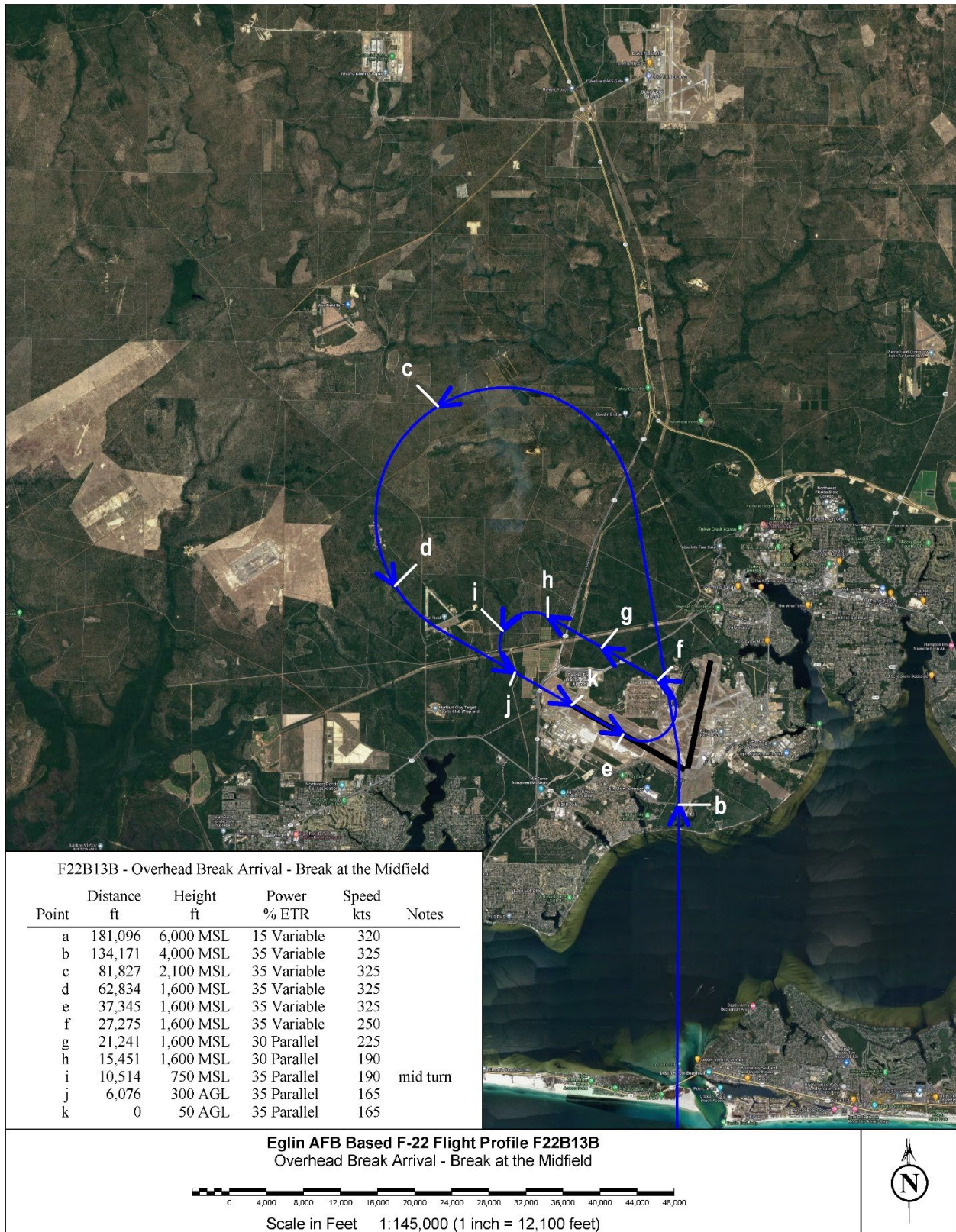


**Supplemental EA for Eglin AFB Combat Air Forces Adversary Air Plus Up  
with F-22 Formal Training Unit  
Final**



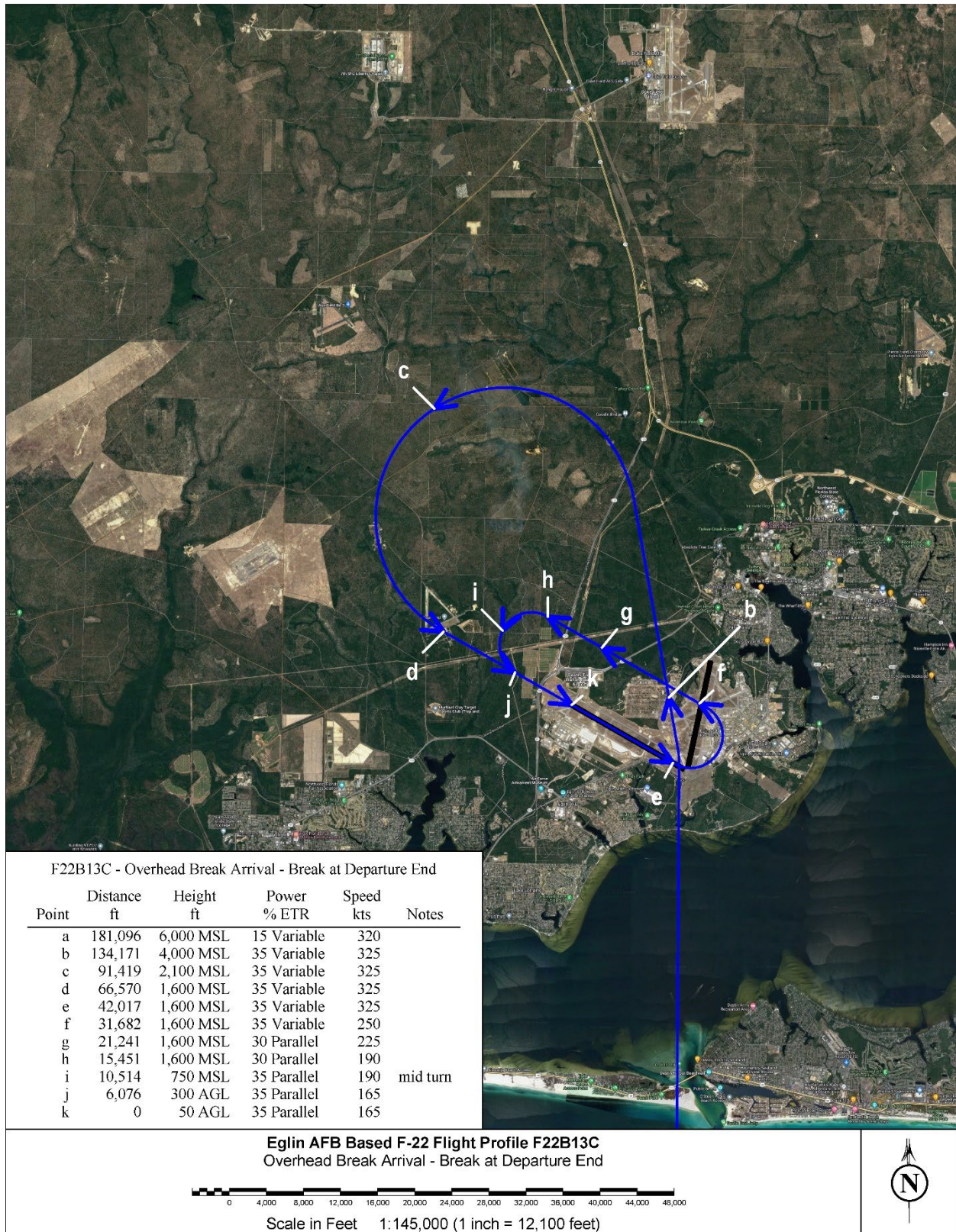


**Supplemental EA for Eglin AFB Combat Air Forces Adversary Air Plus Up  
with F-22 Formal Training Unit  
Final**



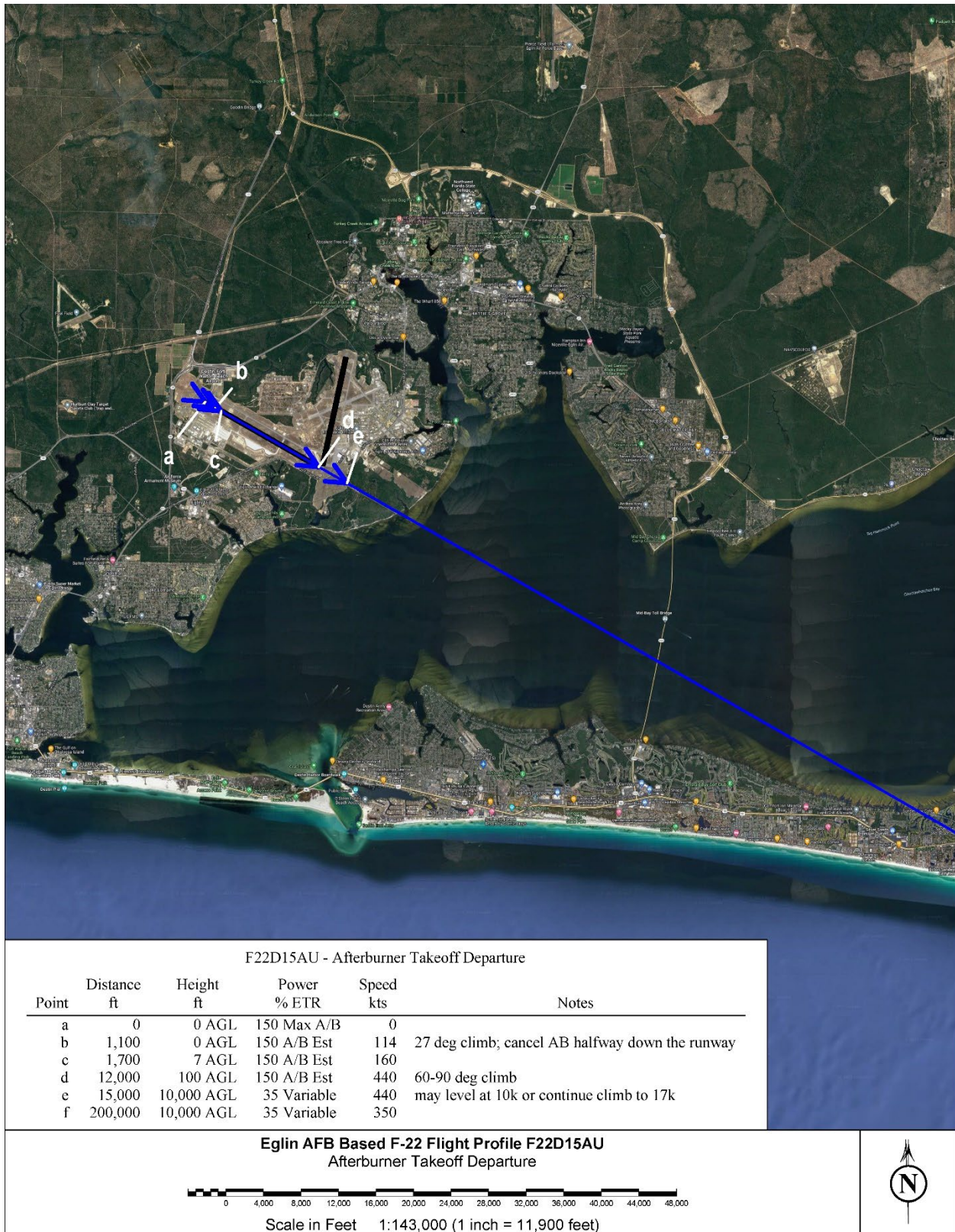


**Supplemental EA for Eglin AFB Combat Air Forces Adversary Air Plus Up  
with F-22 Formal Training Unit  
Final**



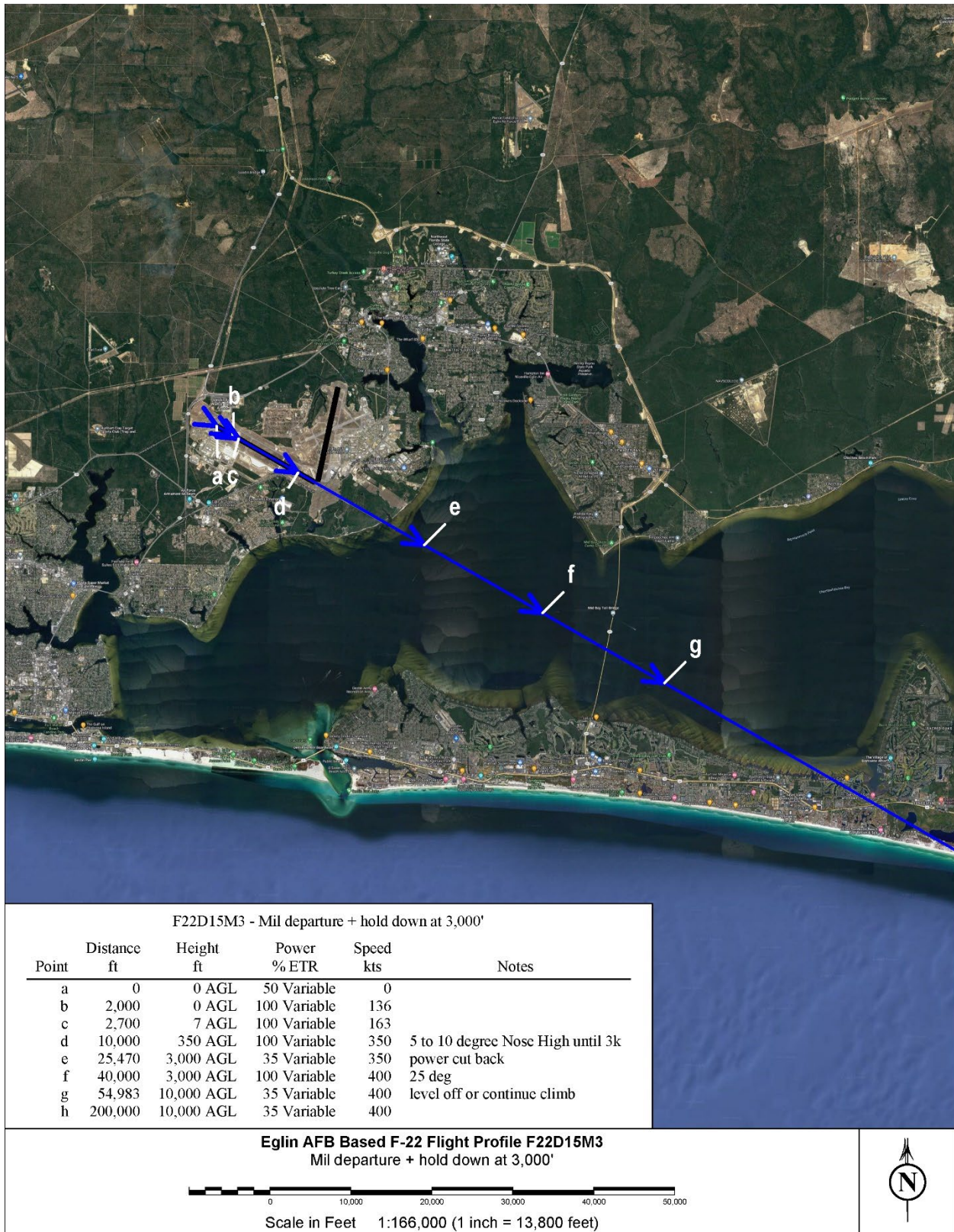


**Supplemental EA for Eglin AFB Combat Air Forces Adversary Air Plus Up  
with F-22 Formal Training Unit  
Final**



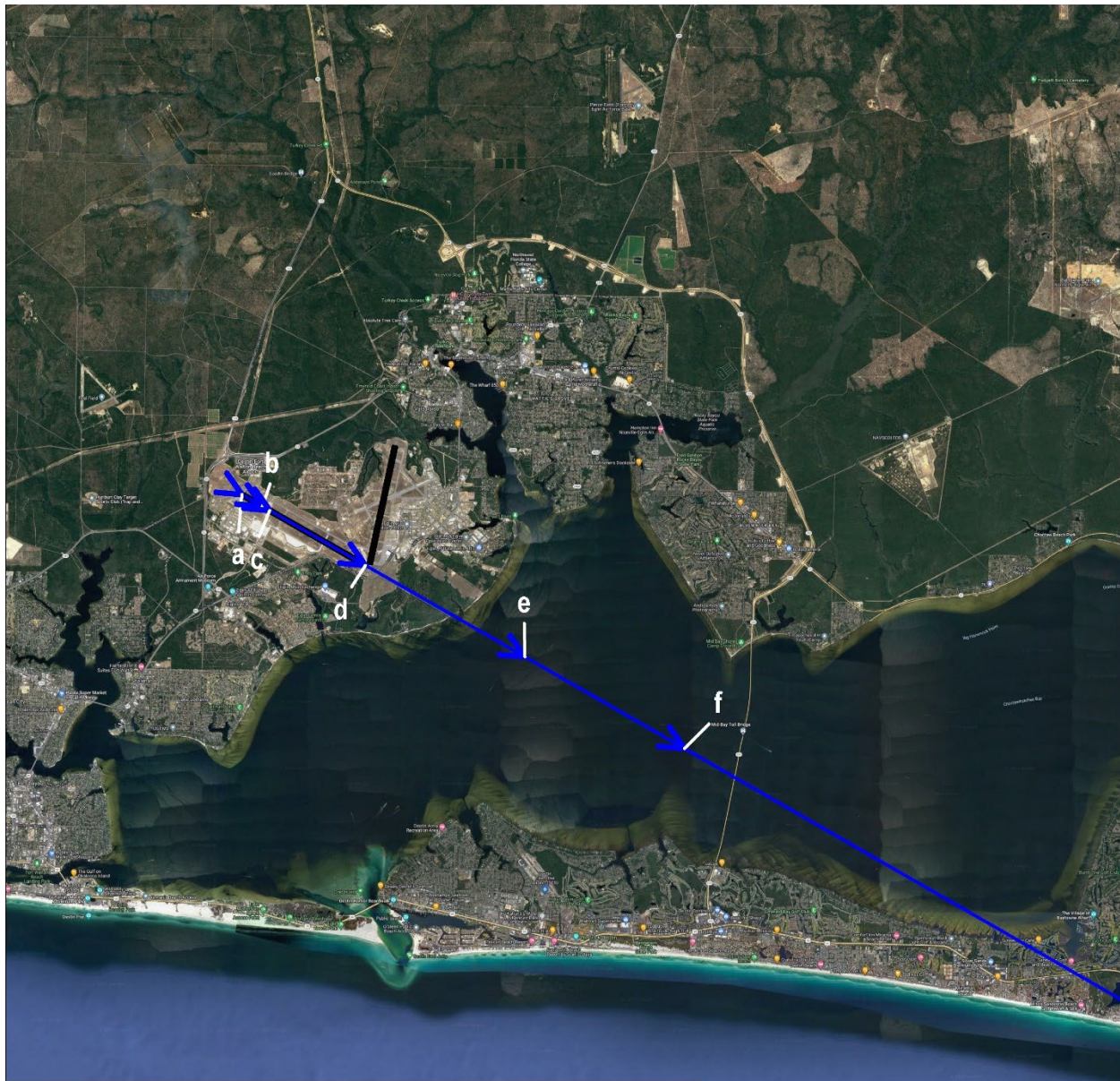


**Supplemental EA for Eglin AFB Combat Air Forces Adversary Air Plus Up  
with F-22 Formal Training Unit  
Final**



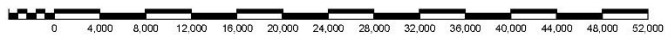


**Supplemental EA for Eglin AFB Combat Air Forces Adversary Air Plus Up  
with F-22 Formal Training Unit  
Final**



F22D15MU - Mil Departure					
Point	Distance ft	Height ft	Power % ETR	Speed kts	Notes
a	0	0 AGL	50 Variable	0	
b	2,000	0 AGL	100 Variable	136	
c	2,700	7 AGL	100 Variable	163	
d	12,000	300 AGL	100 Variable	420	
e	27,500	3,000 AGL	100 Variable	440	25 deg Nose High Climb
f	43,000	10,000 AGL	35 Variable	440	earliest level off
g	200,000	10,000 AGL	35 Variable	440	

**Eglin AFB Based F-22 Flight Profile F22D15MU  
Mil Departure**

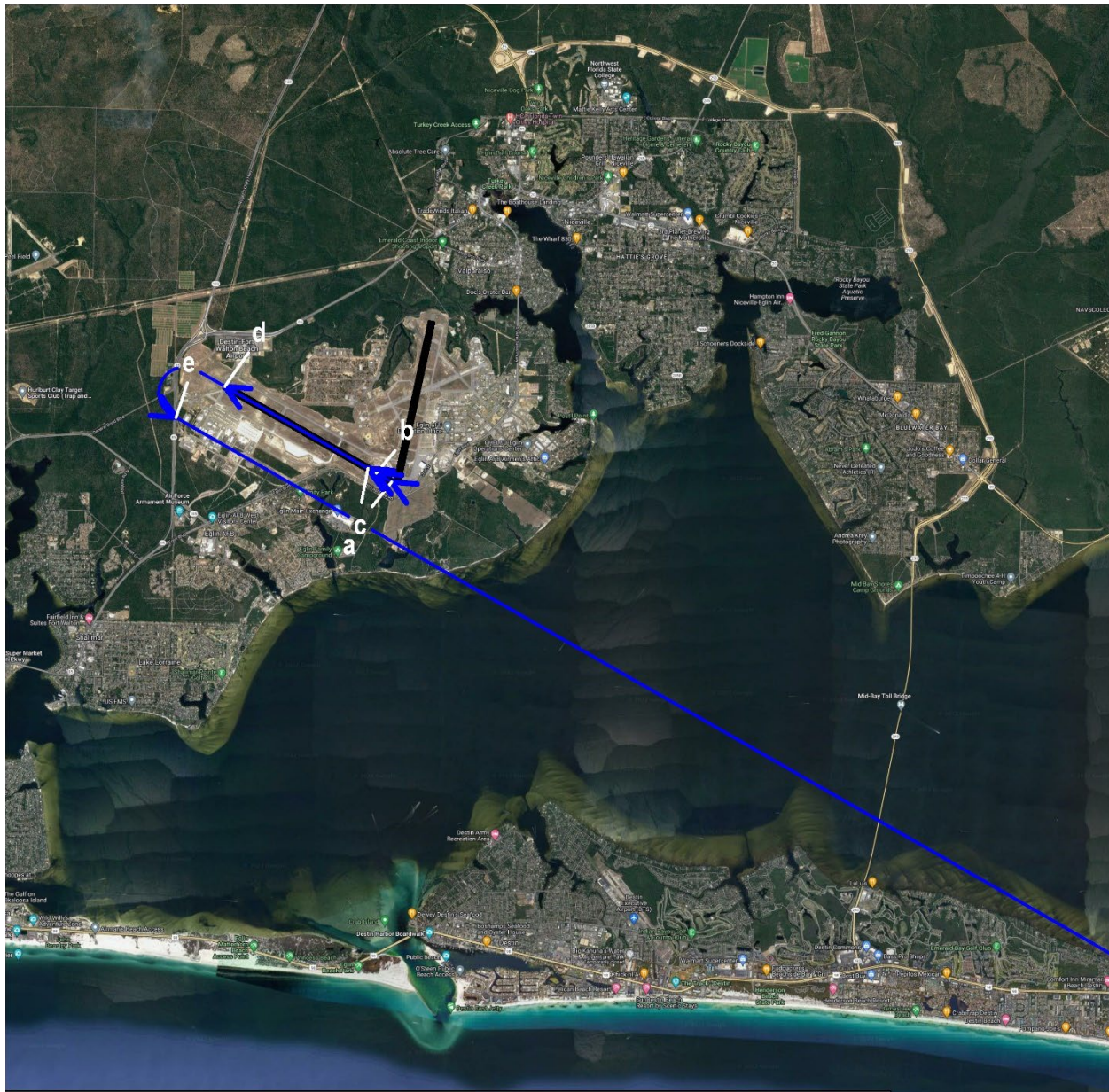


Scale in Feet 1:154,000 (1 inch = 12,900 feet)





# Supplemental EA for Eglin AFB Combat Air Forces Adversary Air Plus Up with F-22 Formal Training Unit Final



F22D48AU - Afterburner Takeoff Departure

Point	Distance ft	Height ft	Power % ETR	Speed kts	Notes
a	0	0 AGL	150 Max A/B	0	
b	1,100	0 AGL	150 A/B Est	114	27 deg climb; cancel AB halfway down the runway
c	1,700	7 AGL	150 A/B Est	160	
d	12,000	100 AGL	150 A/B Est	440	up to 60 deg climb
e	19,331	10,000 AGL	35 Variable	440	may level at 10k or continue climb to 17k
f	200,000	10,000 AGL	35 Variable	350	

Eglin AFB Based F-22 Flight Profile F22D48AU  
Afterburner Takeoff Departure

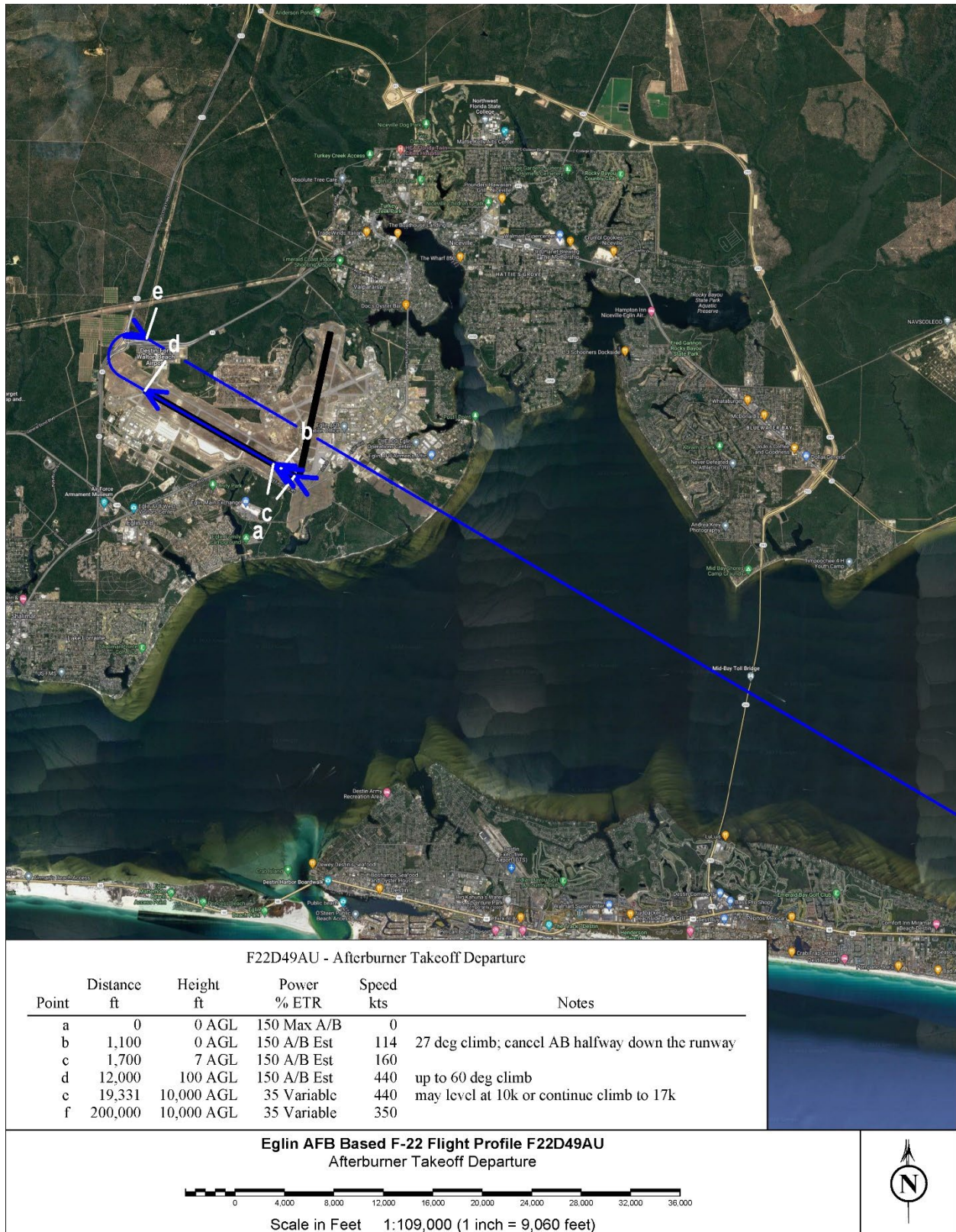


Scale in Feet 1:113,000 (1 inch = 9,440 feet)



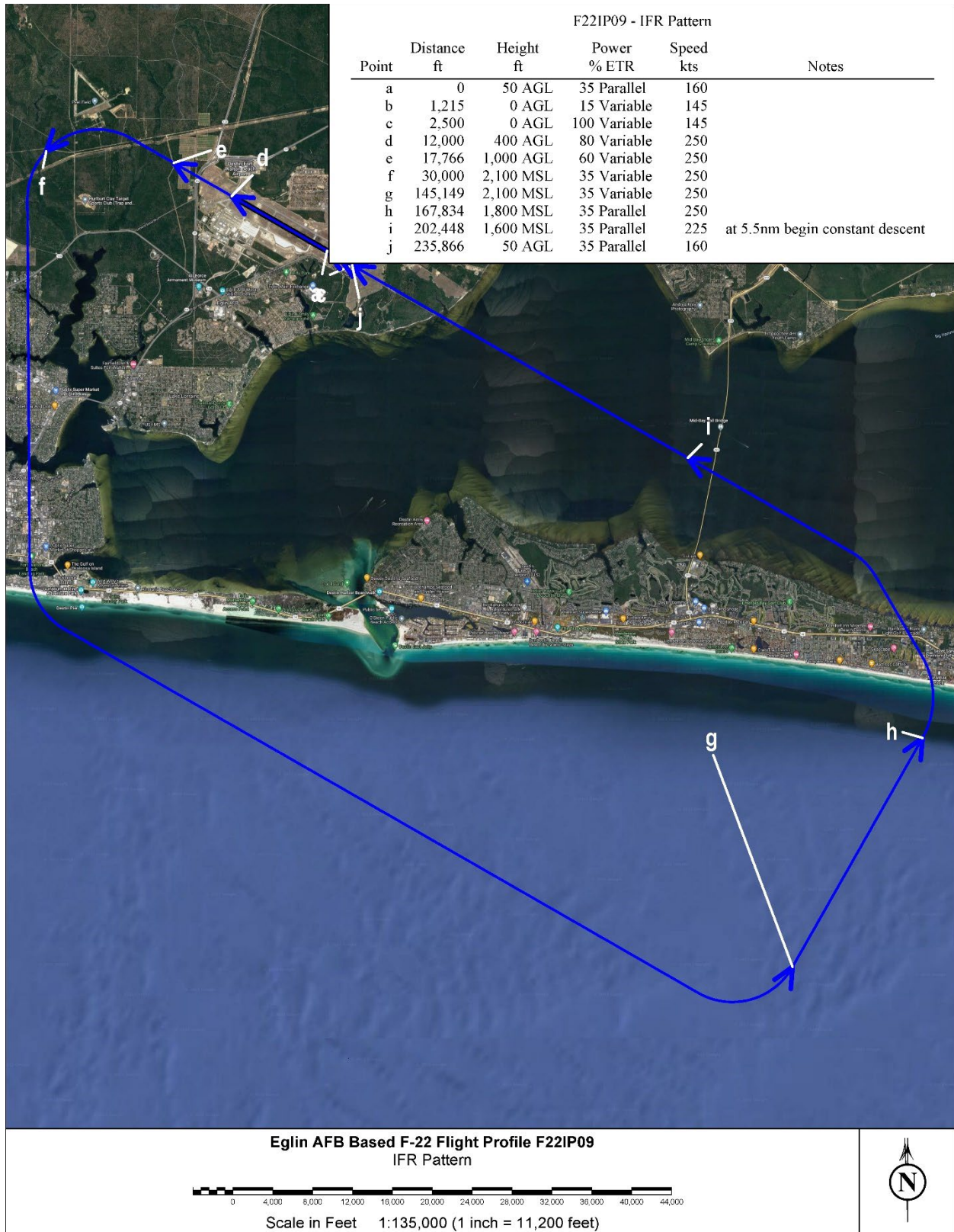


# Supplemental EA for Eglin AFB Combat Air Forces Adversary Air Plus Up with F-22 Formal Training Unit Final



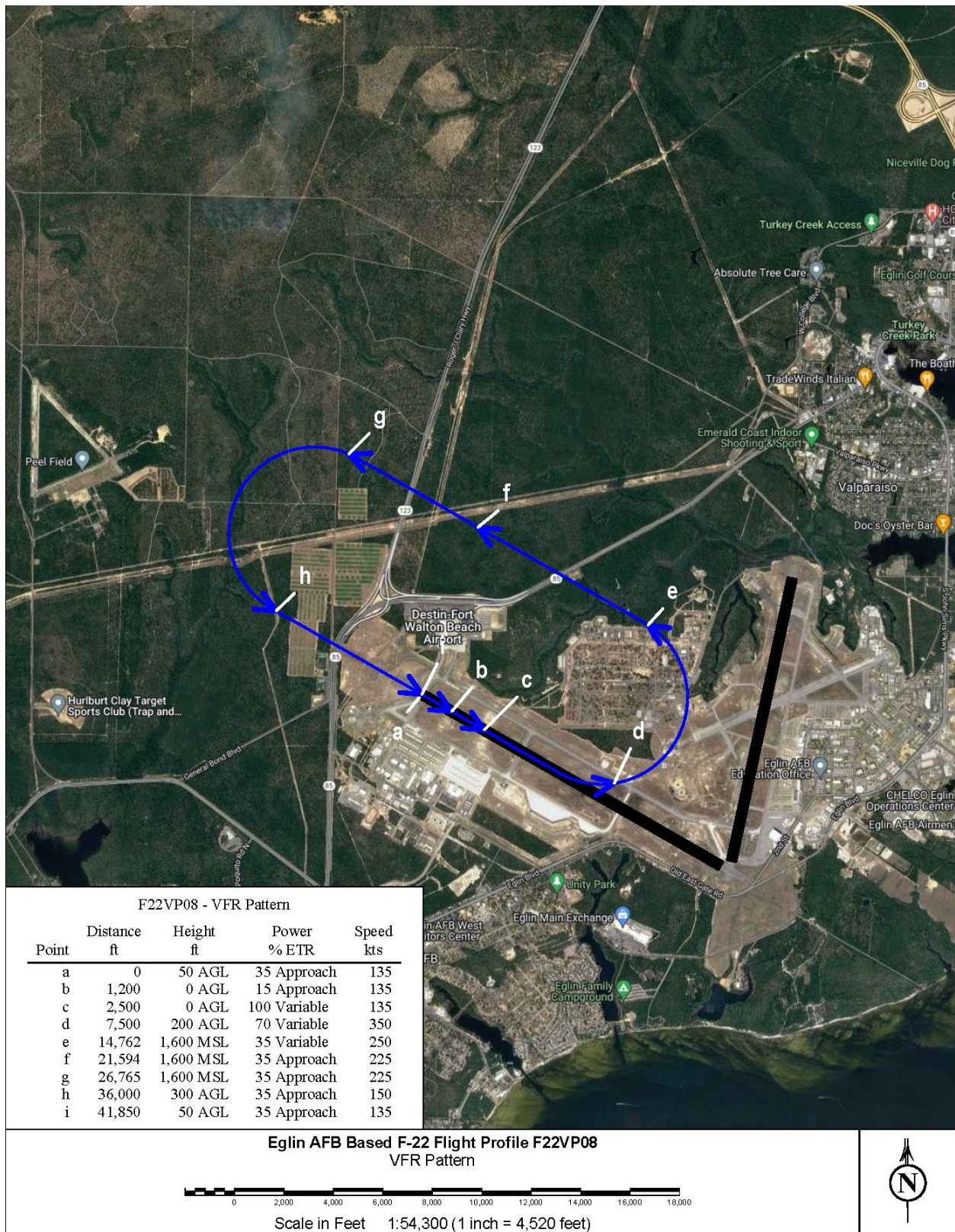


**Supplemental EA for Eglin AFB Combat Air Forces Adversary Air Plus Up  
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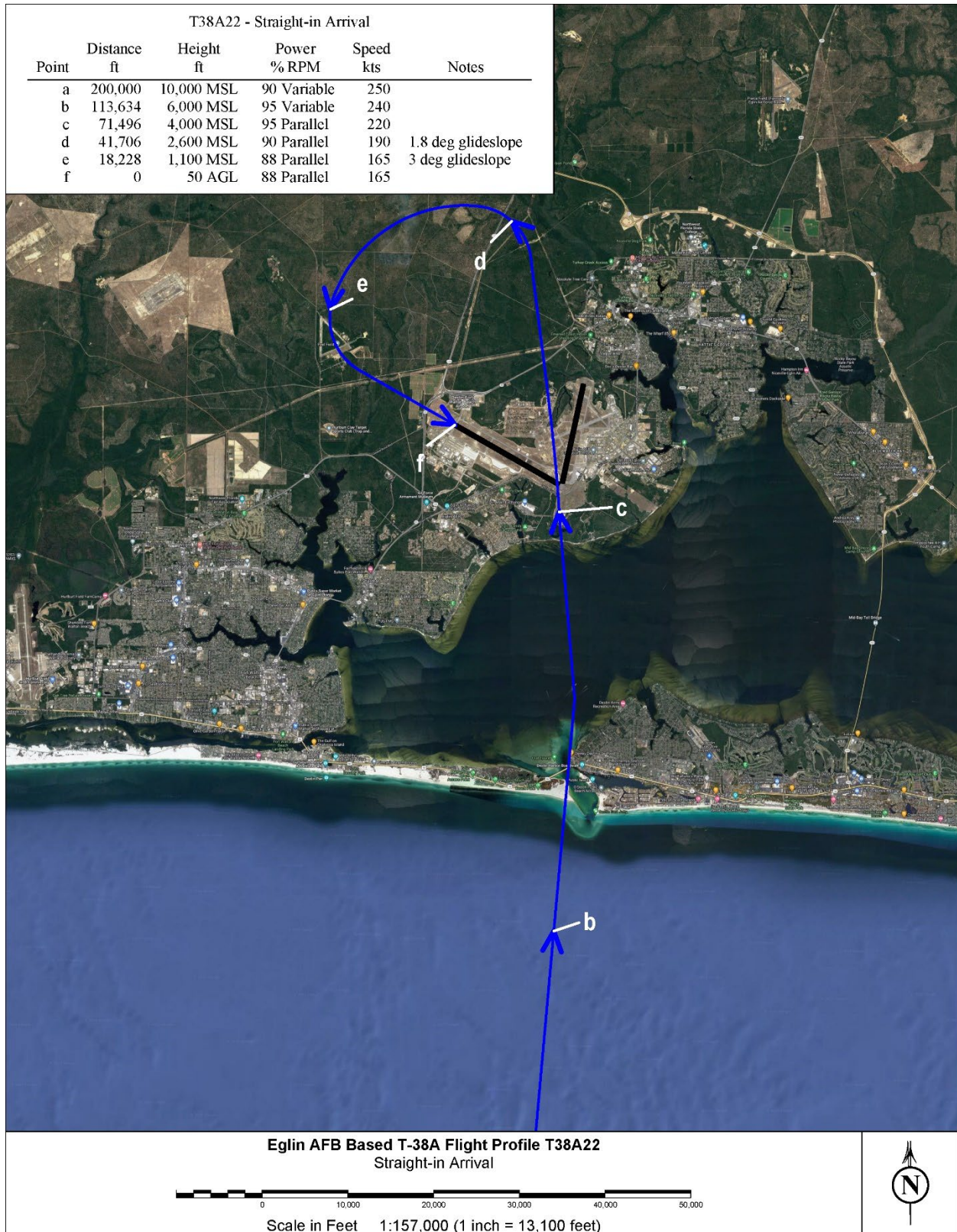
**Supplemental EA for Eglin AFB Combat Air Forces Adversary Air Plus Up  
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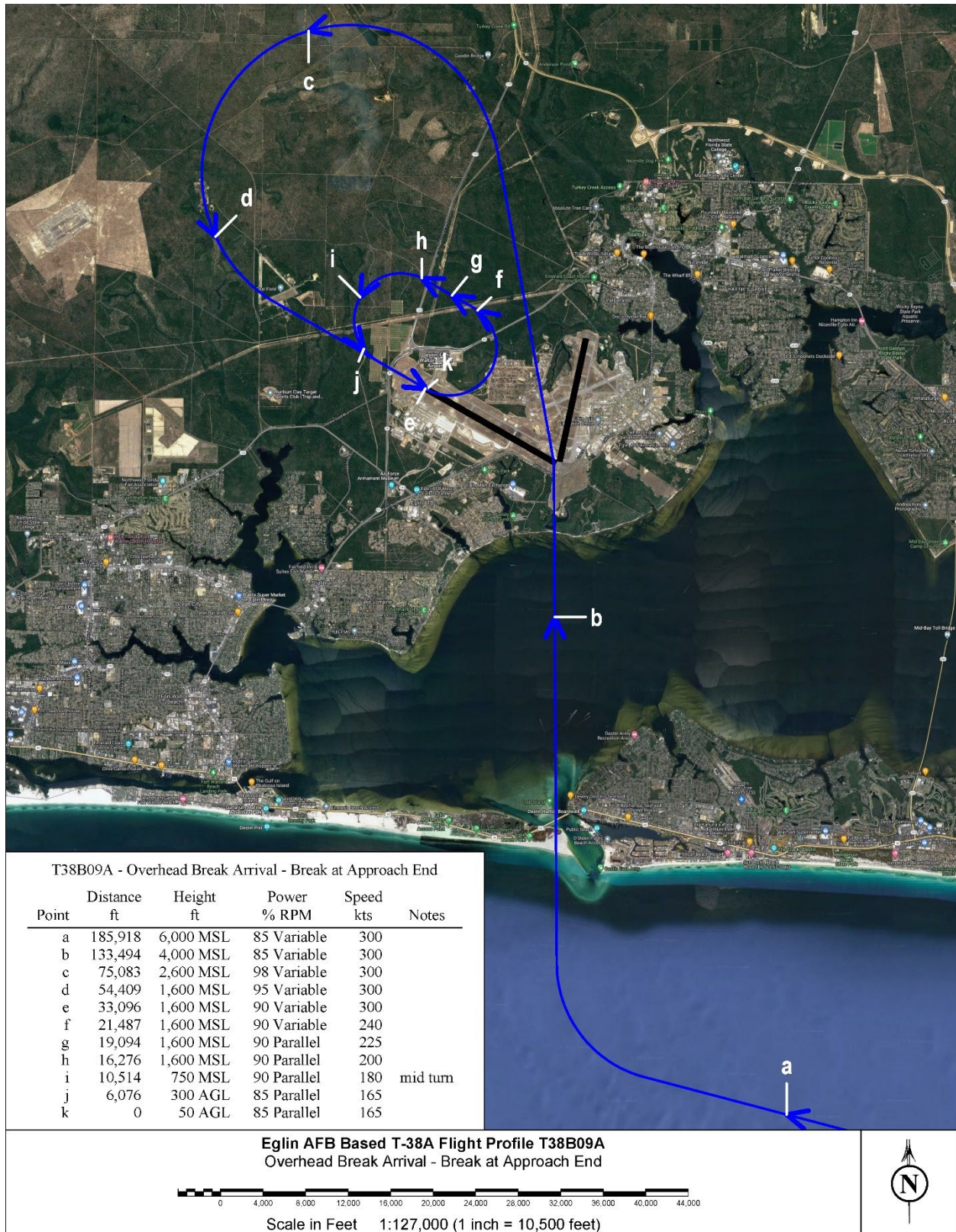
**Supplemental EA for Eglin AFB Combat Air Forces Adversary Air Plus Up  
with F-22 Formal Training Unit  
Final**

**Representative Flight Profiles for T-38A Operations out of Eglin Air Force Base**



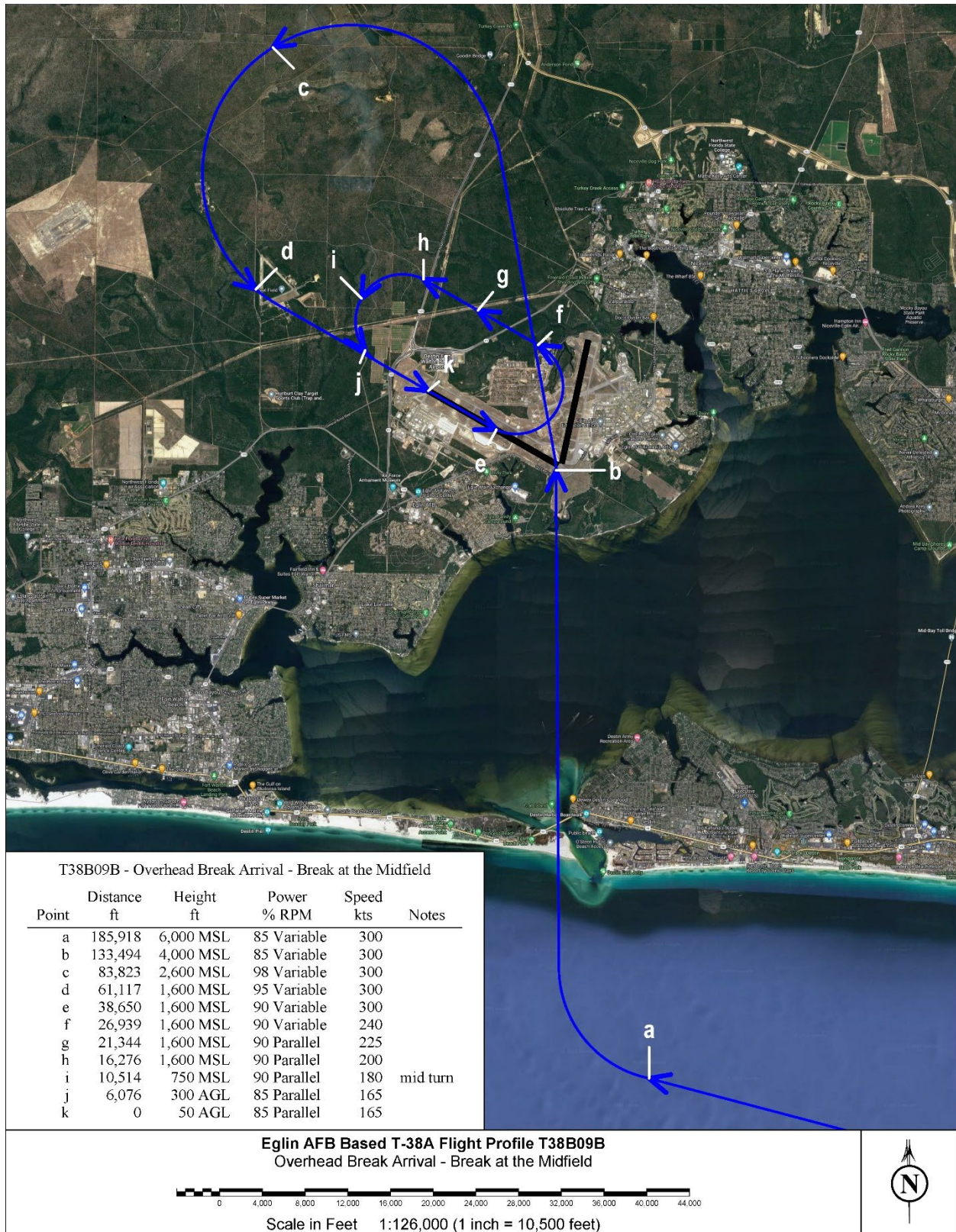


**Supplemental EA for Eglin AFB Combat Air Forces Adversary Air Plus Up  
with F-22 Formal Training Unit  
Final**



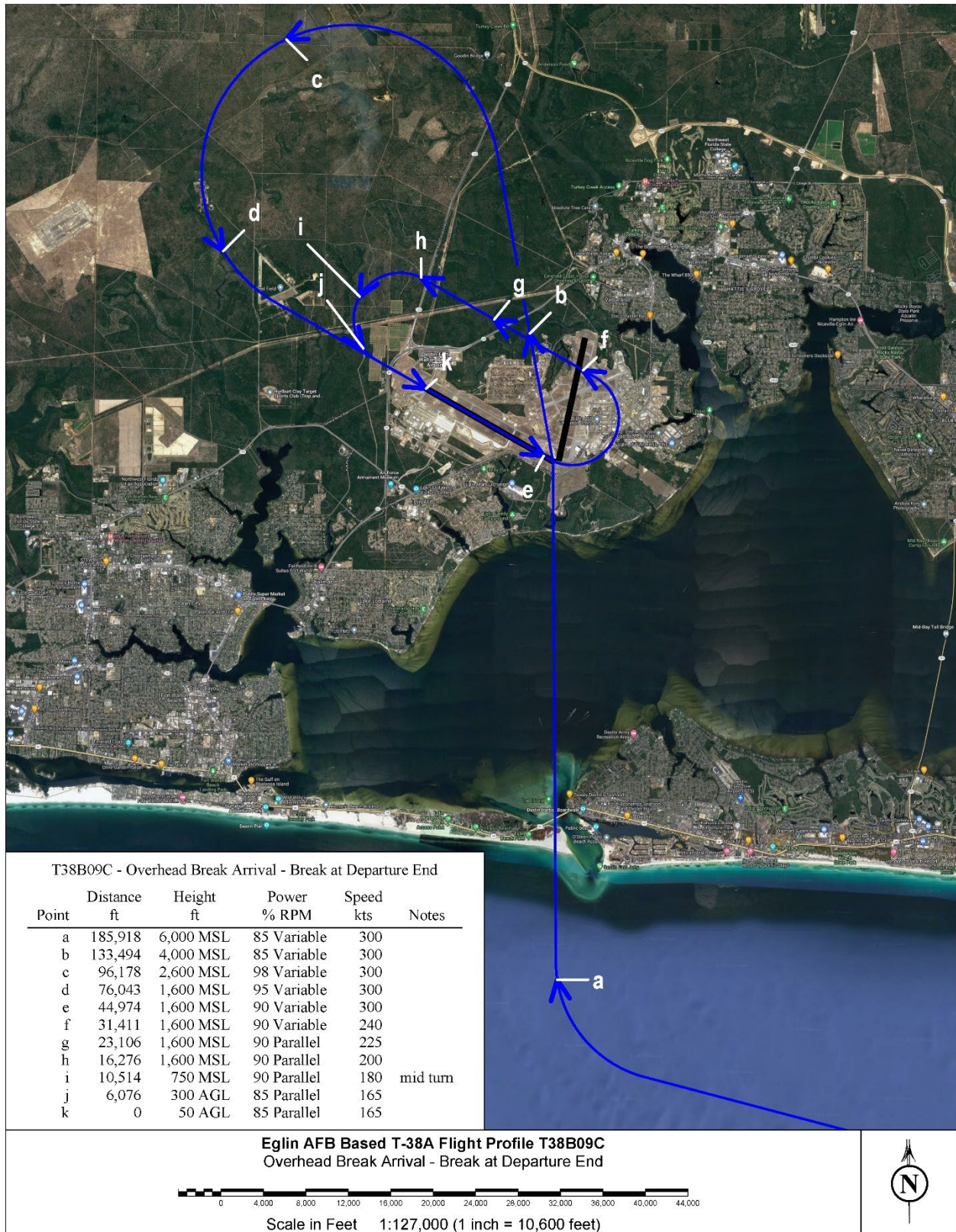


**Supplemental EA for Eglin AFB Combat Air Forces Adversary Air Plus Up  
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Final**



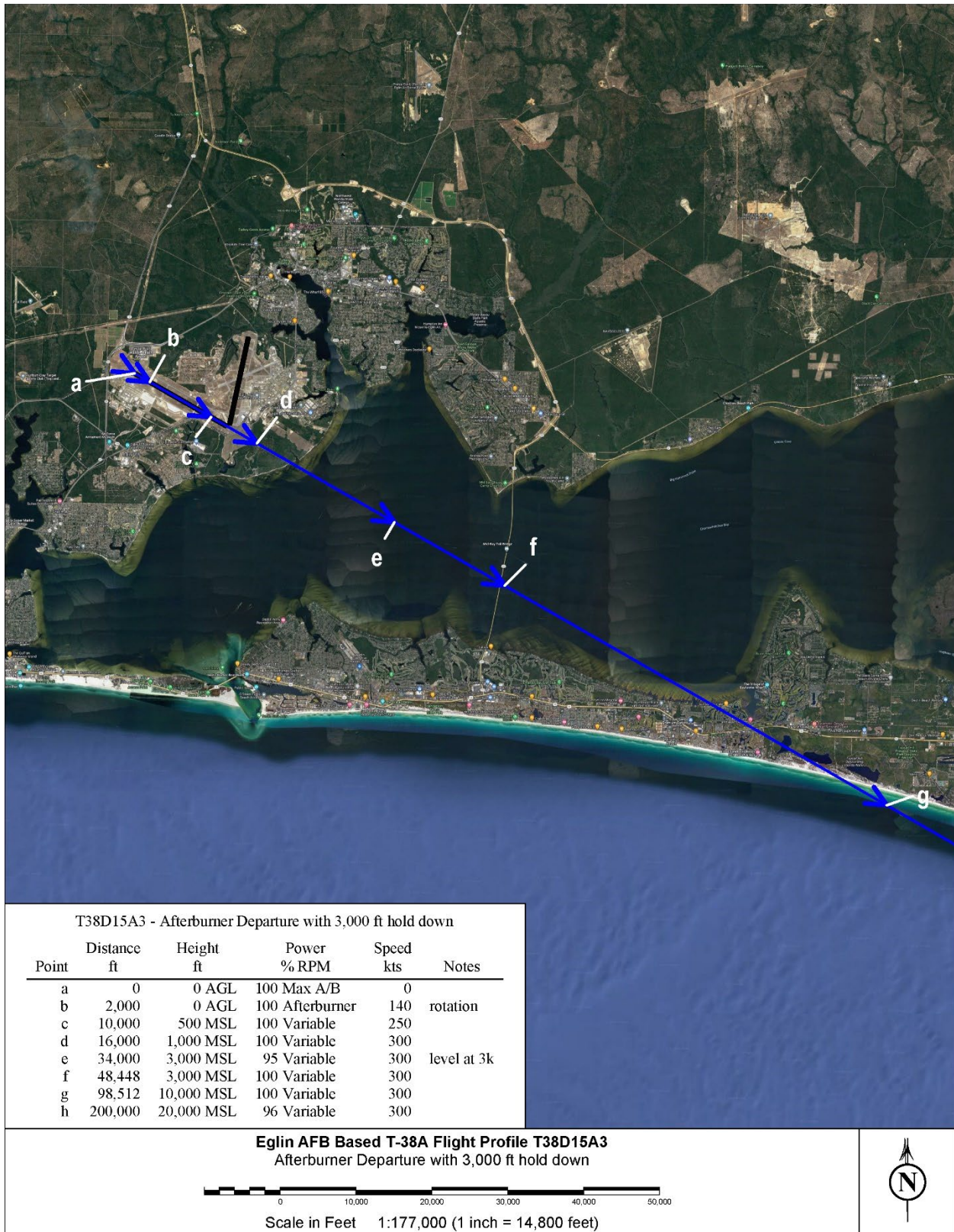


# Supplemental EA for Eglin AFB Combat Air Forces Adversary Air Plus Up with F-22 Formal Training Unit Final



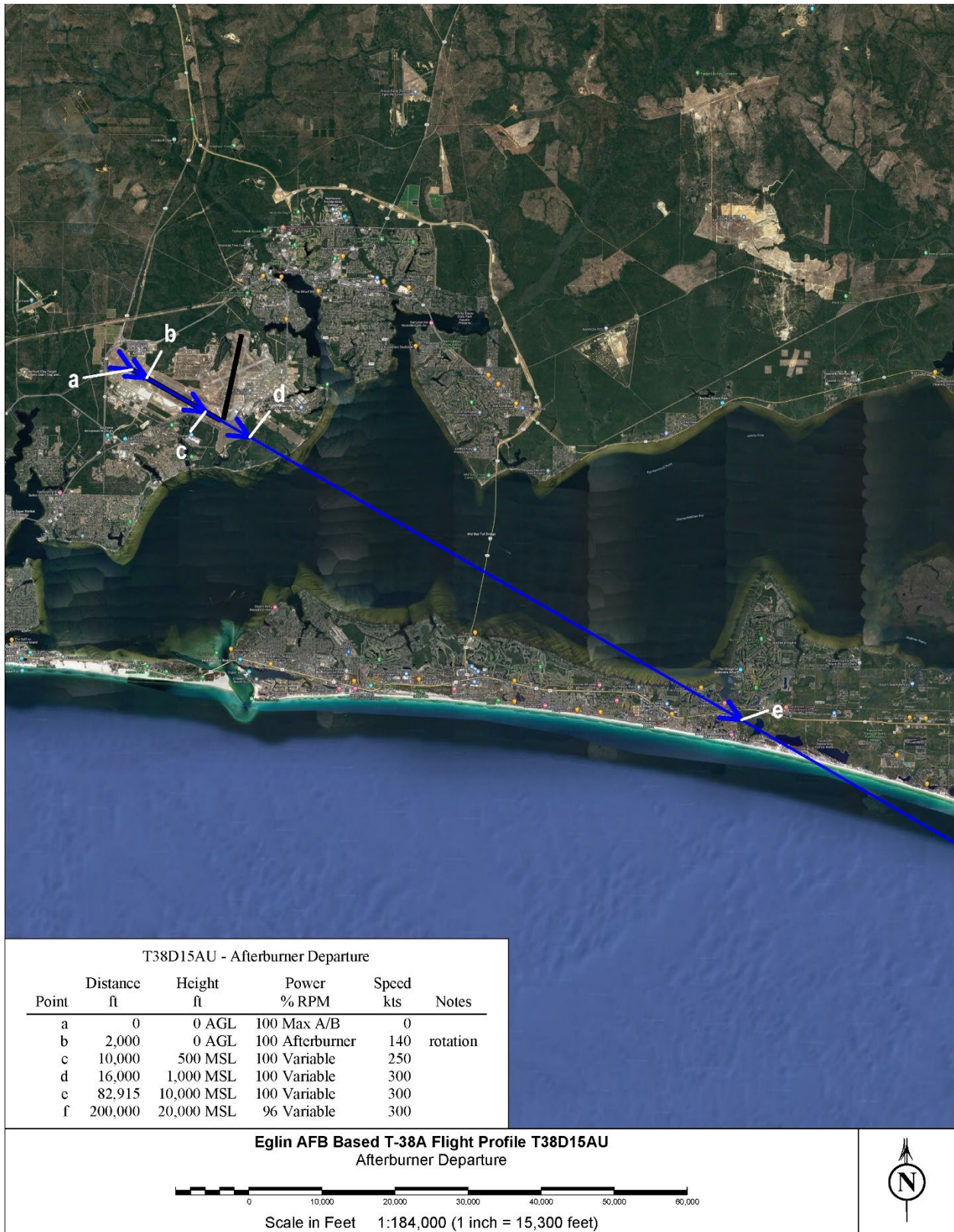


**Supplemental EA for Eglin AFB Combat Air Forces Adversary Air Plus Up  
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Final**



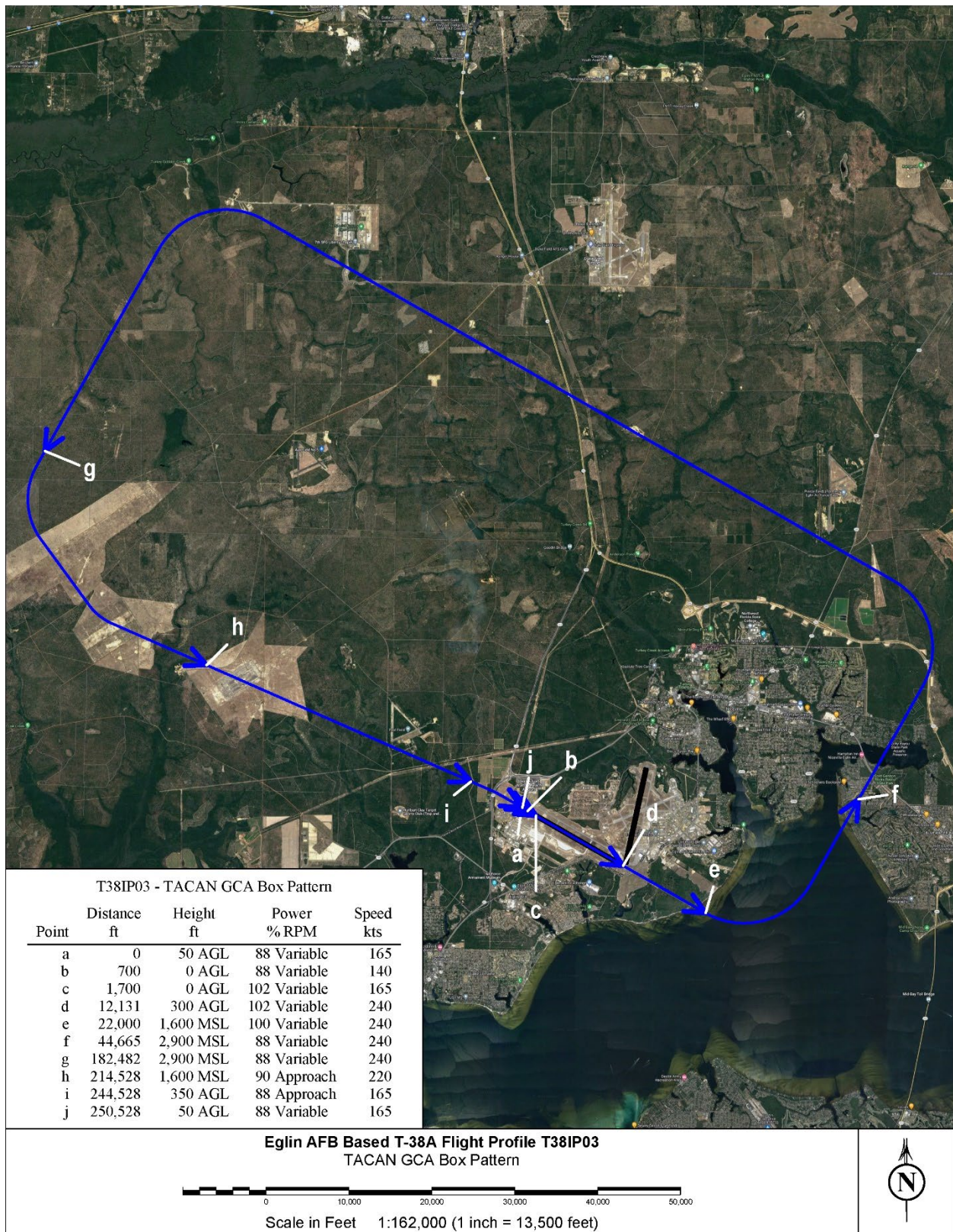


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with F-22 Formal Training Unit  
Final**



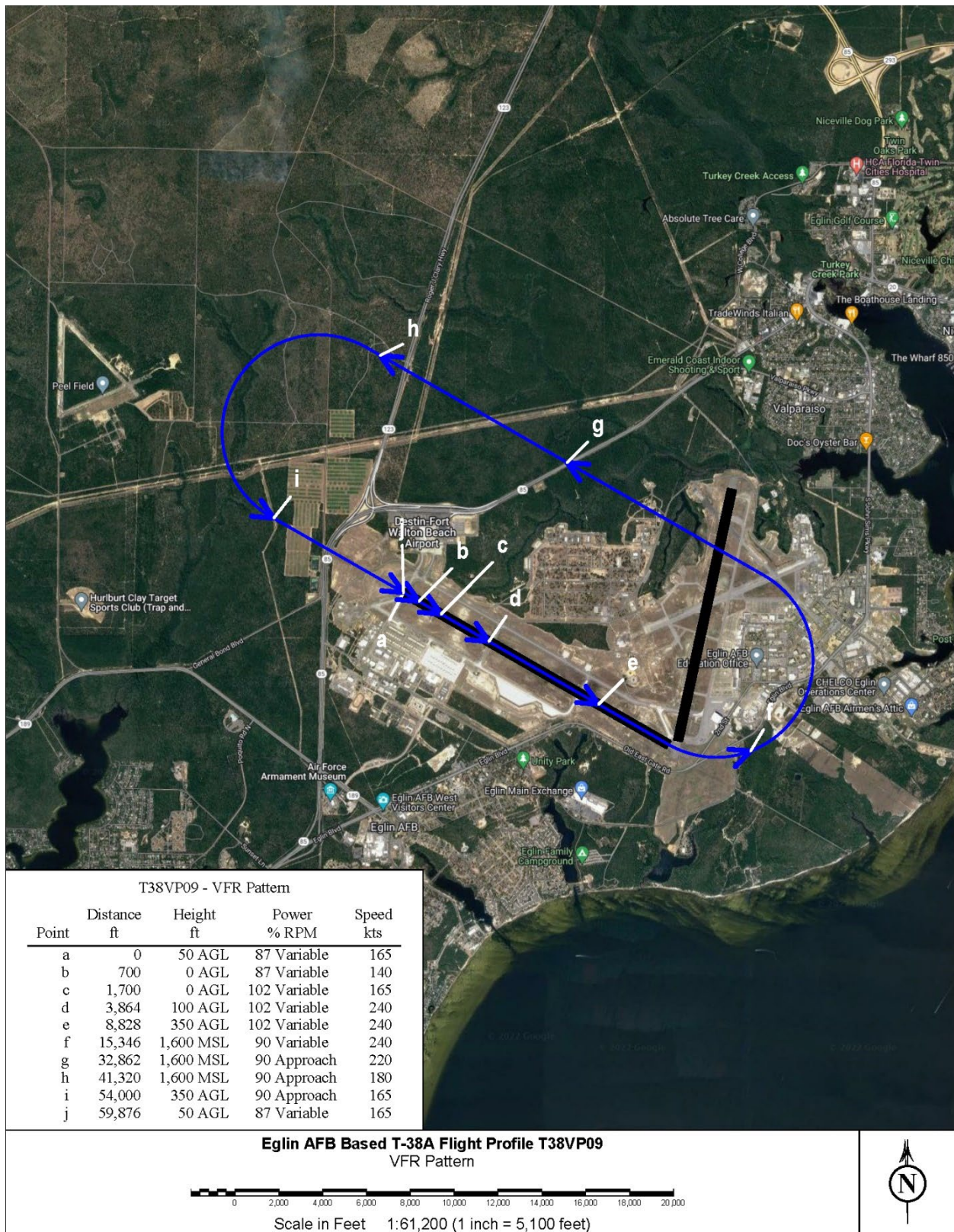


**Supplemental EA for Eglin AFB Combat Air Forces Adversary Air Plus Up  
with F-22 Formal Training Unit  
Final**



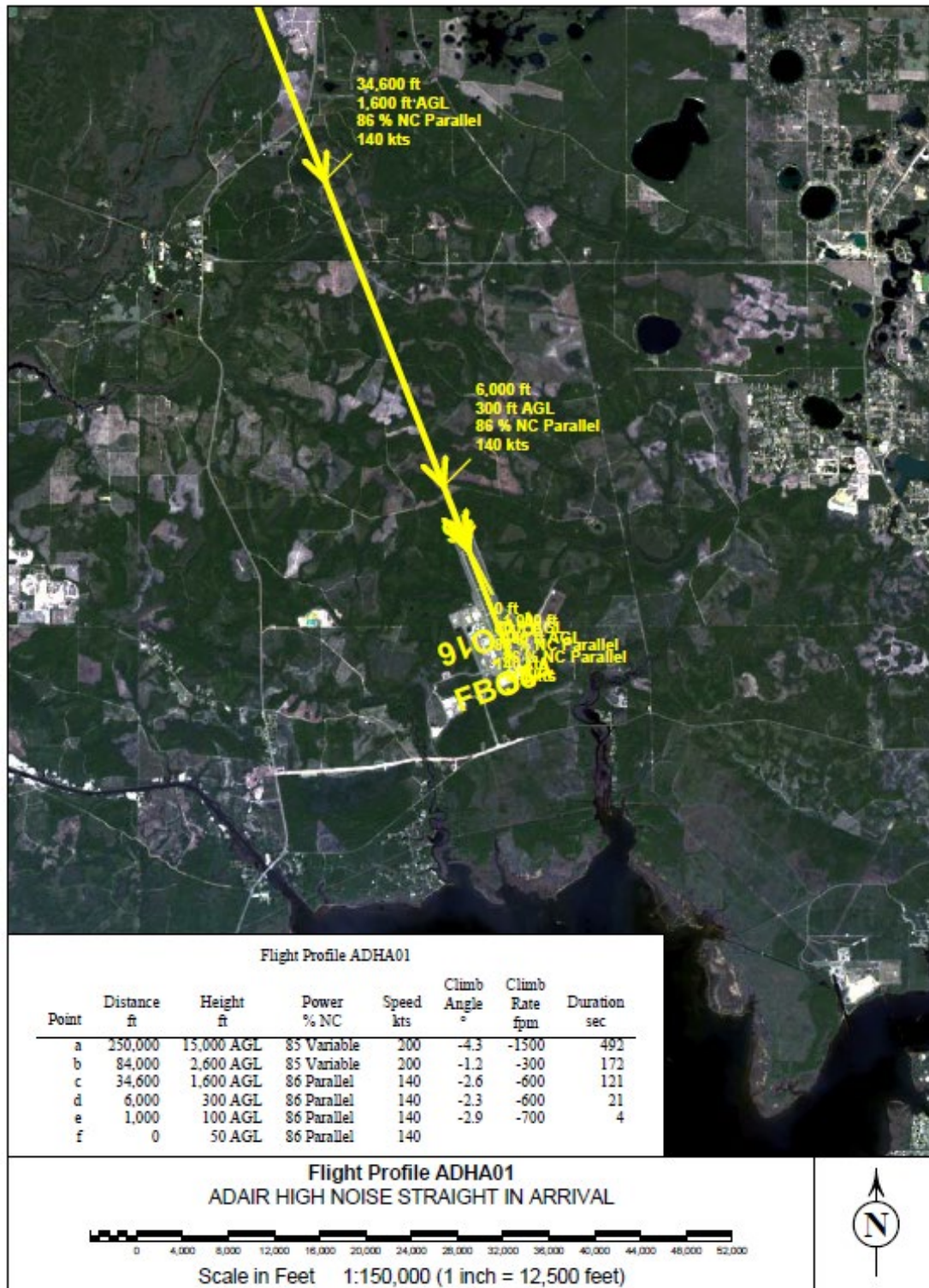


**Supplemental EA for Eglin AFB Combat Air Forces Adversary Air Plus Up  
with F-22 Formal Training Unit  
Final**

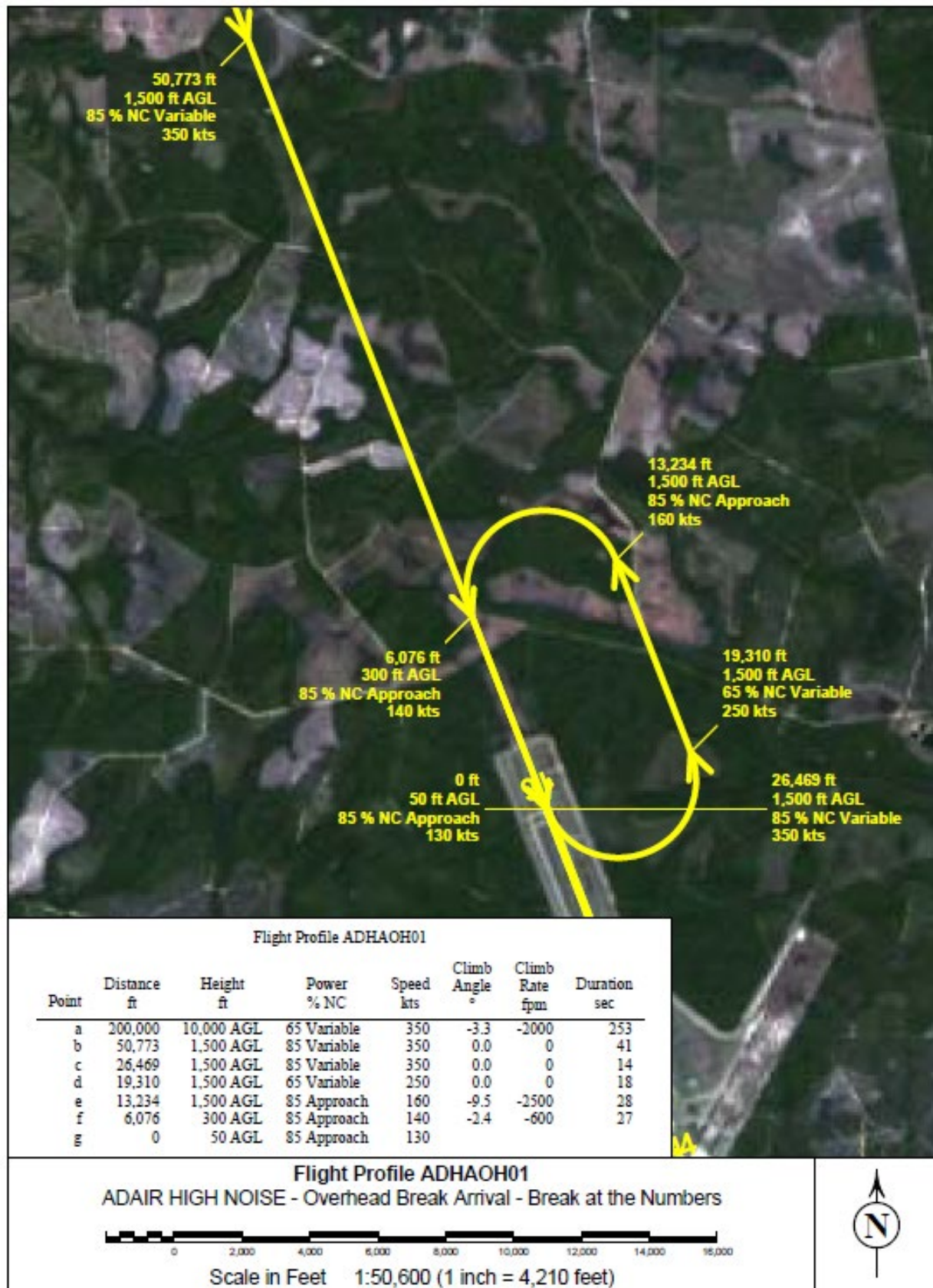




**Representative Flight Profiles for Contract Adversary Air Operations out of Northwest Florida  
Beaches International Airport**

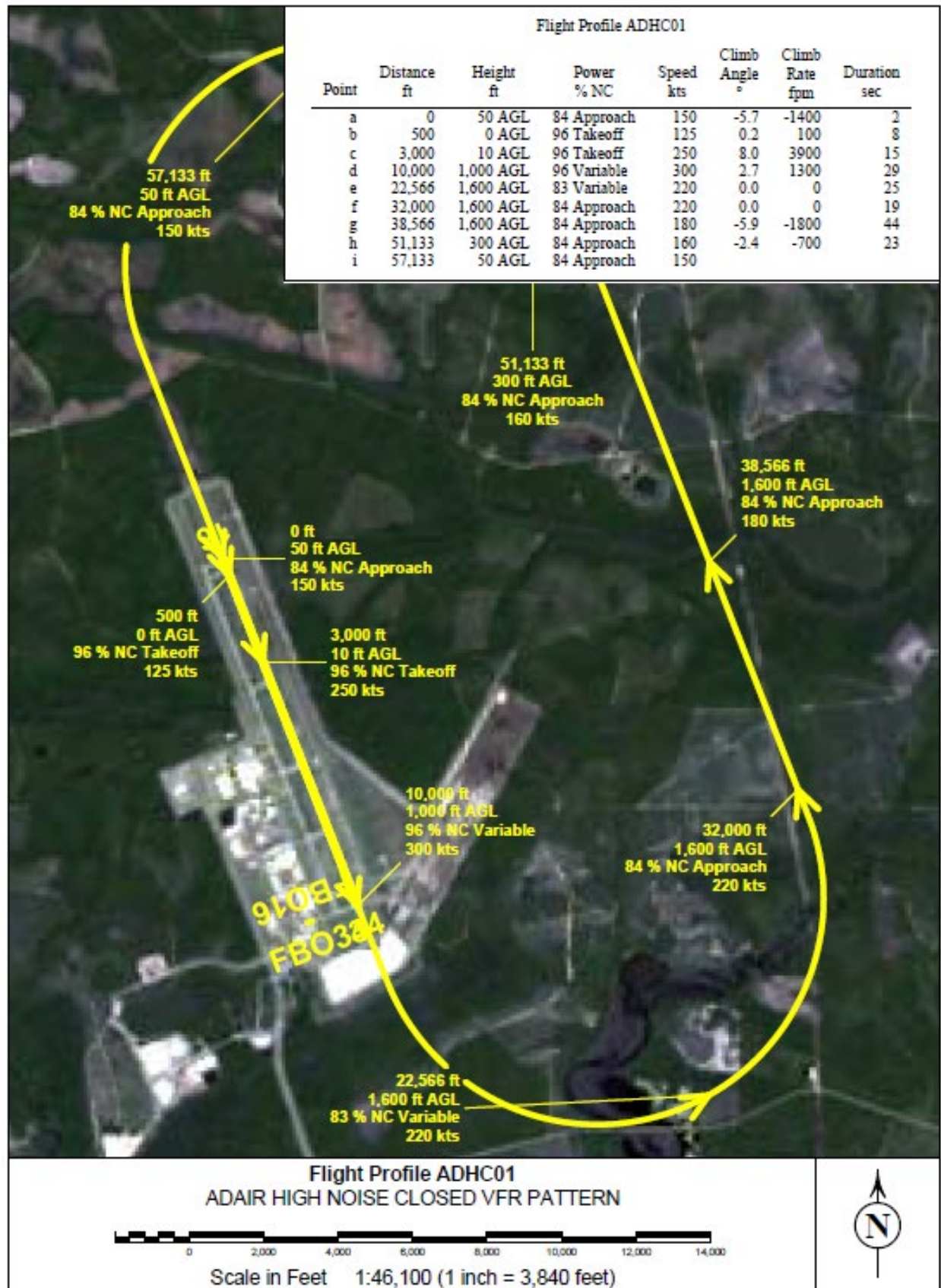


**Supplemental EA for Eglin AFB Combat Air Forces Adversary Air Plus Up  
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Final**



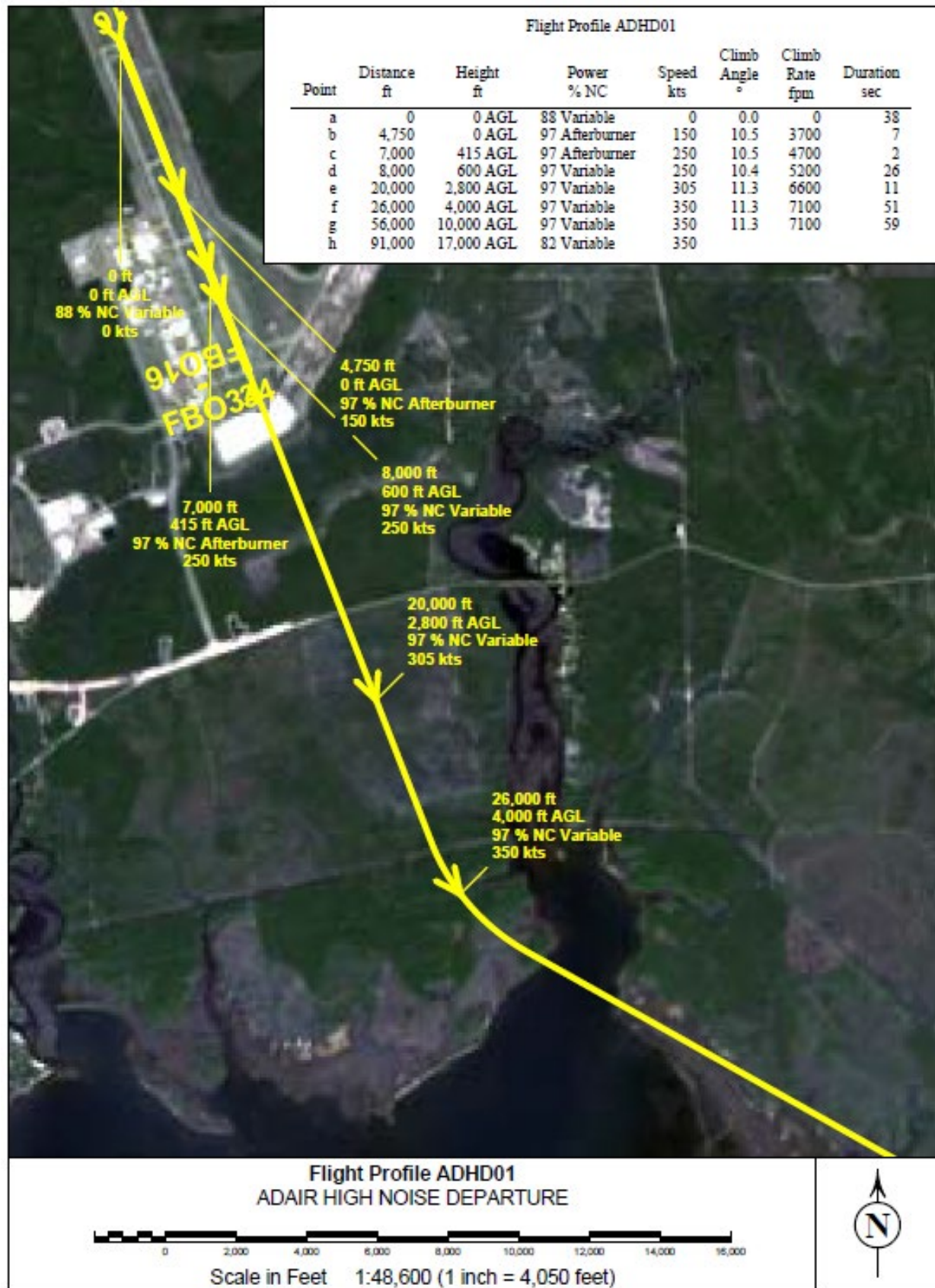


**Supplemental EA for Eglin AFB Combat Air Forces Adversary Air Plus Up  
with F-22 Formal Training Unit  
Final**

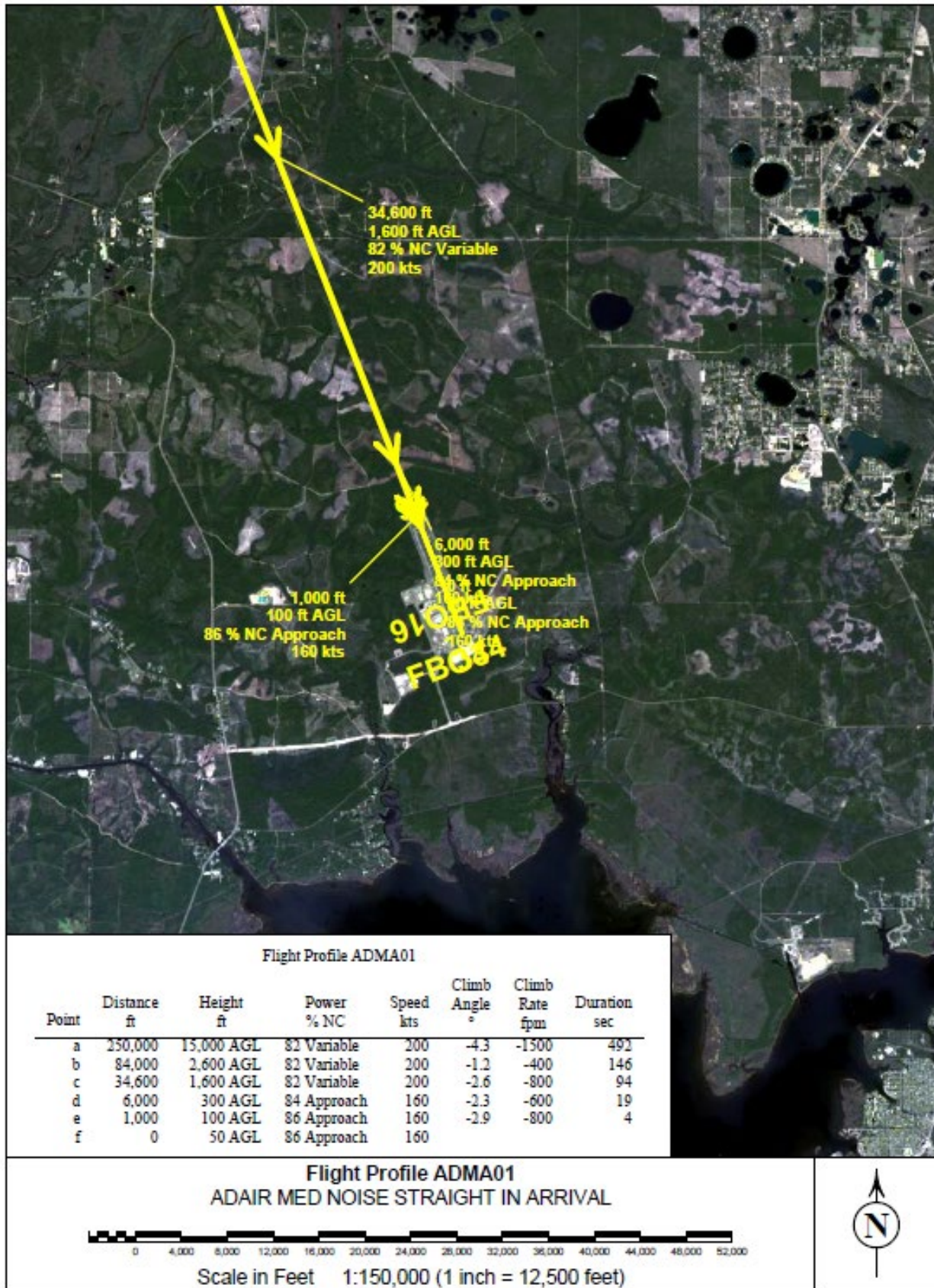




**Supplemental EA for Eglin AFB Combat Air Forces Adversary Air Plus Up  
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Final**

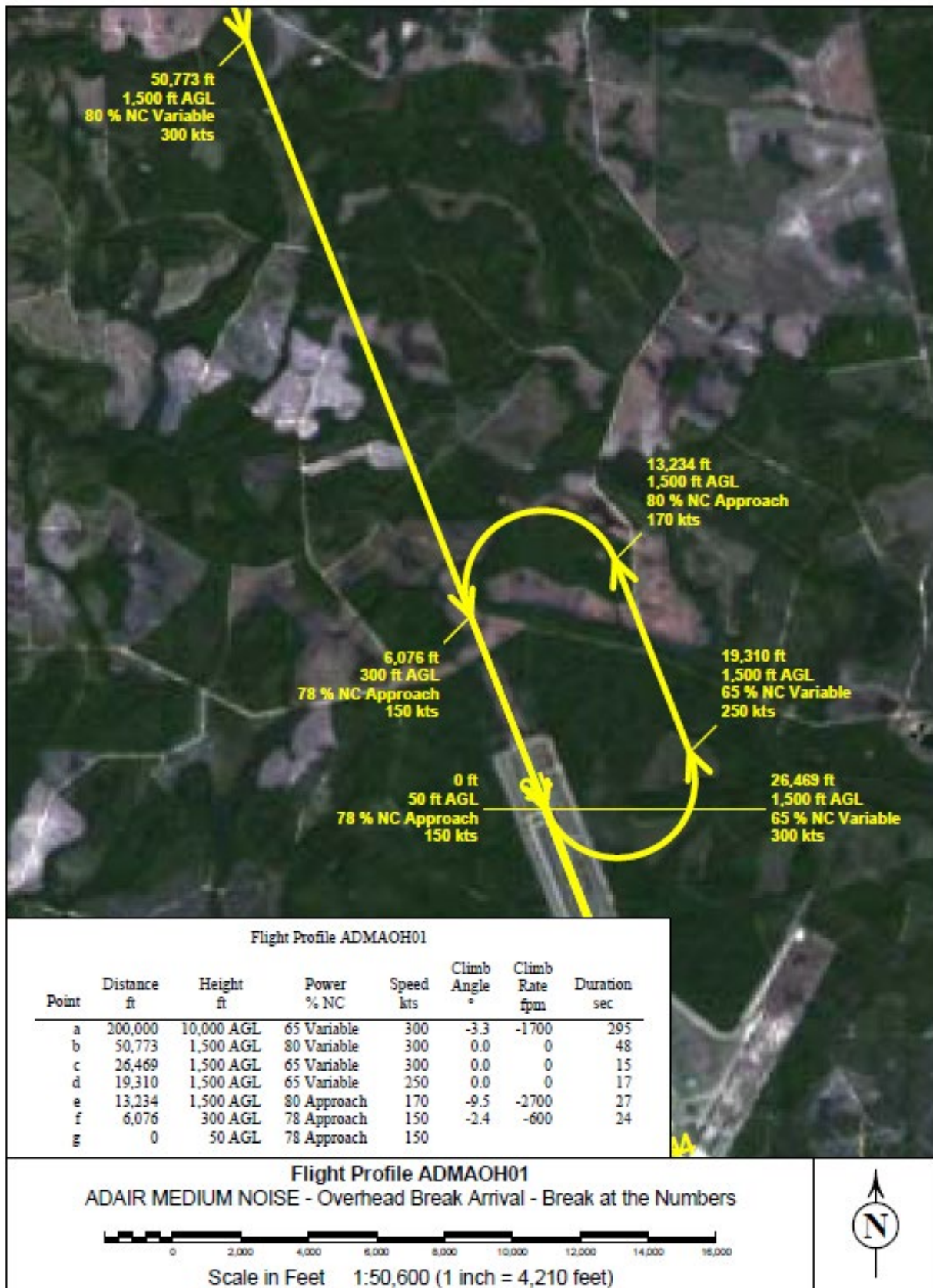


Supplemental EA for Eglin AFB Combat Air Forces Adversary Air Plus Up  
with F-22 Formal Training Unit  
Final

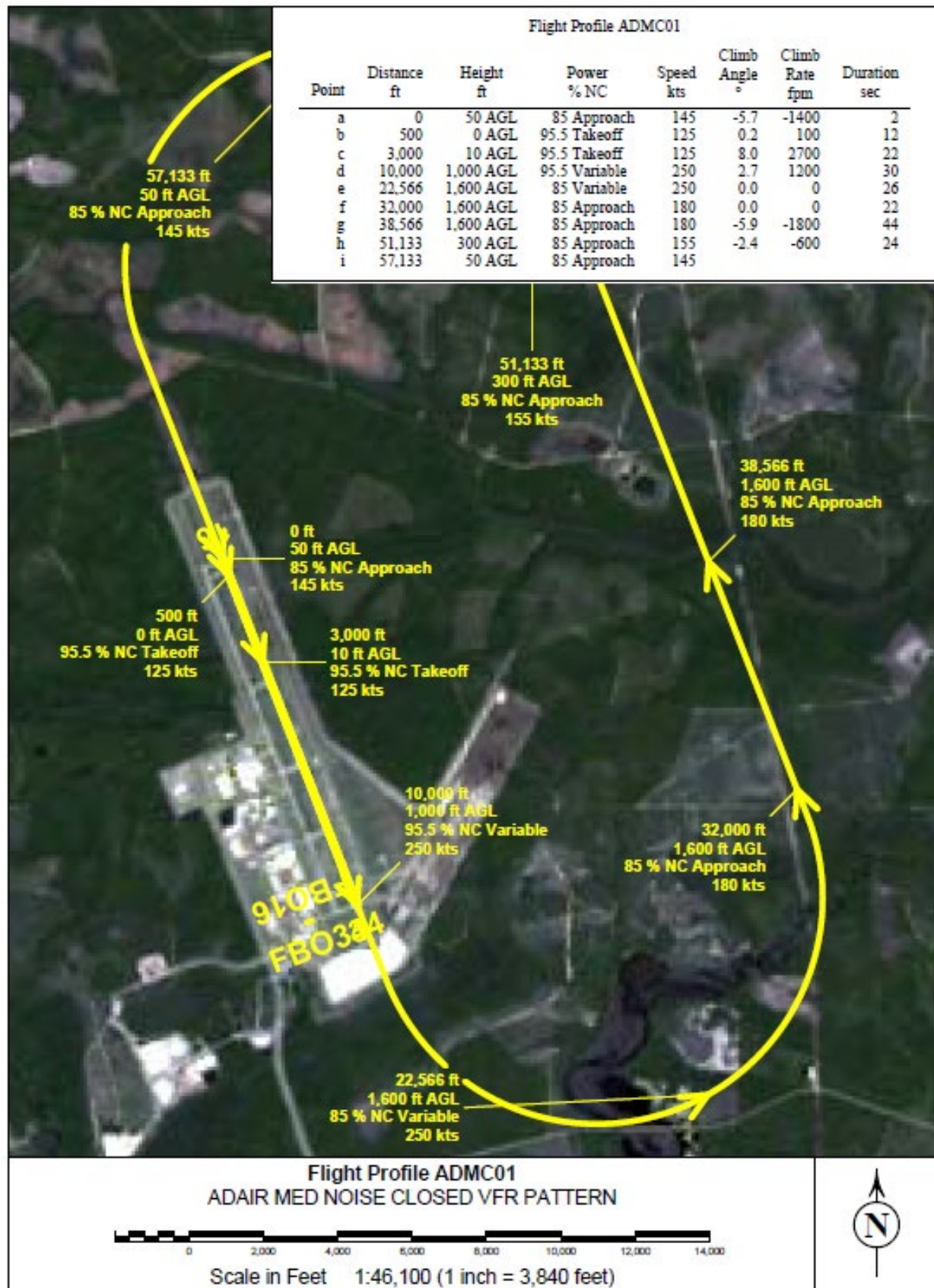




Supplemental EA for Eglin AFB Combat Air Forces Adversary Air Plus Up  
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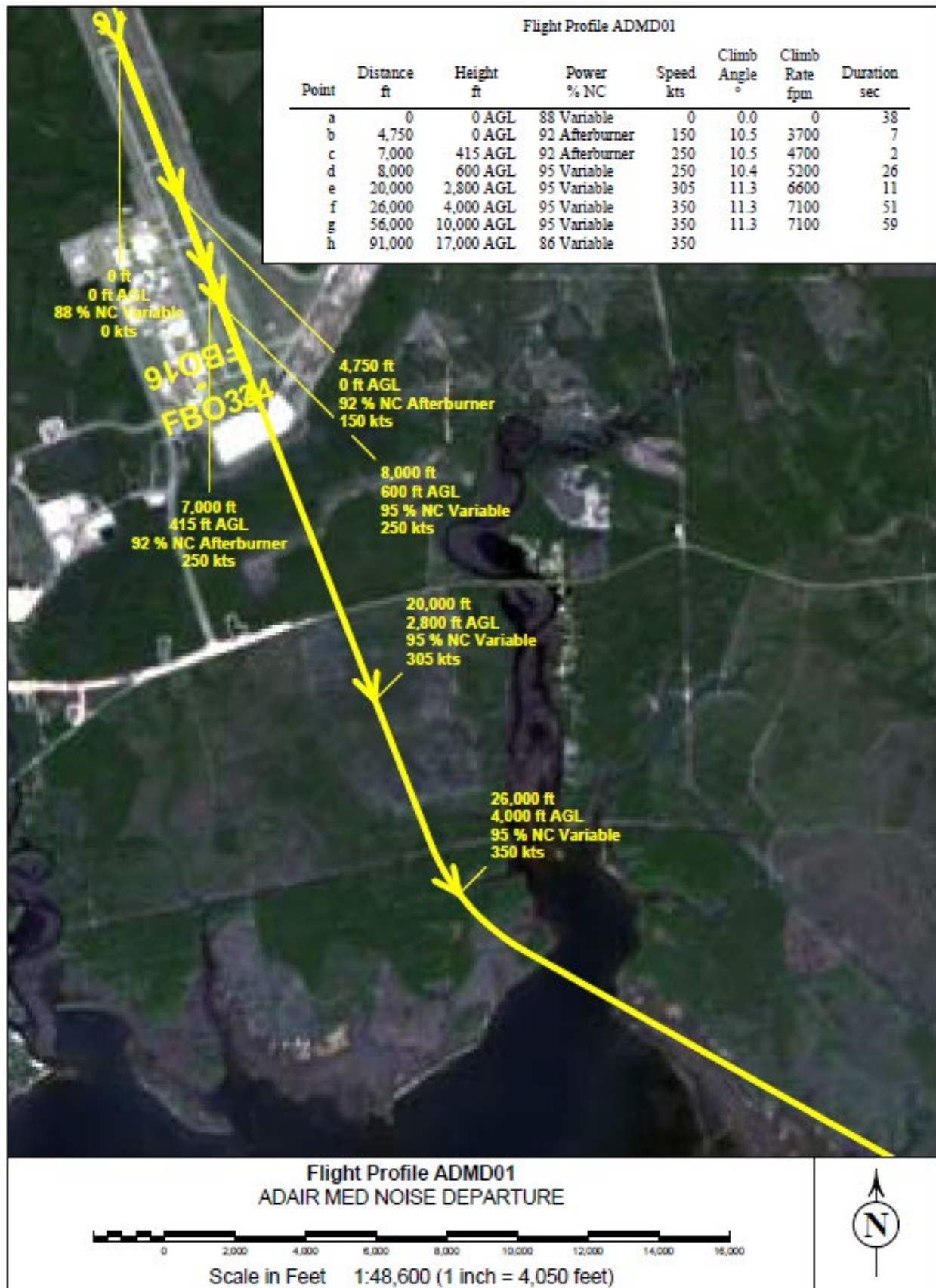


**Supplemental EA for Eglin AFB Combat Air Forces Adversary Air Plus Up  
with F-22 Formal Training Unit  
Final**

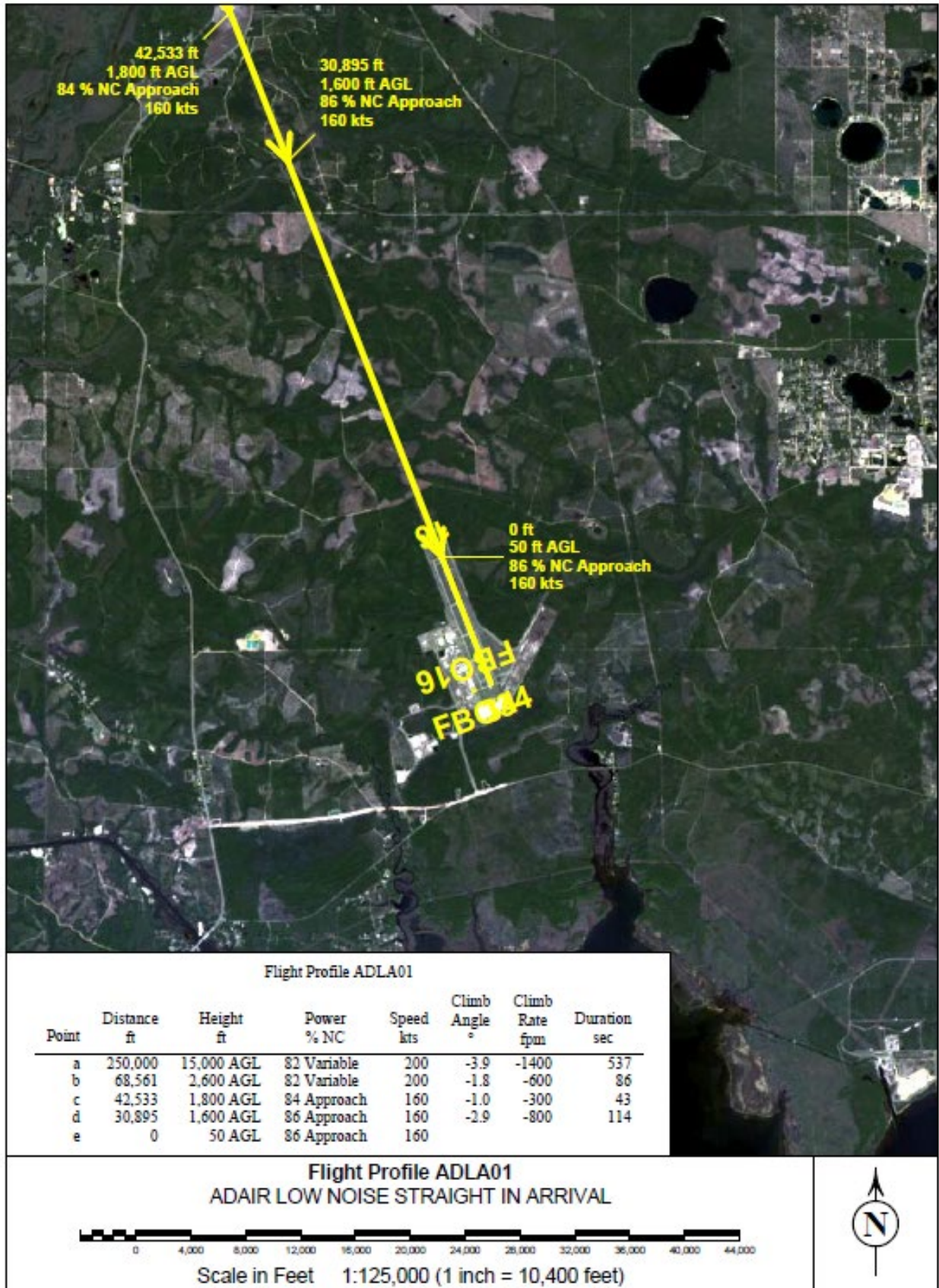




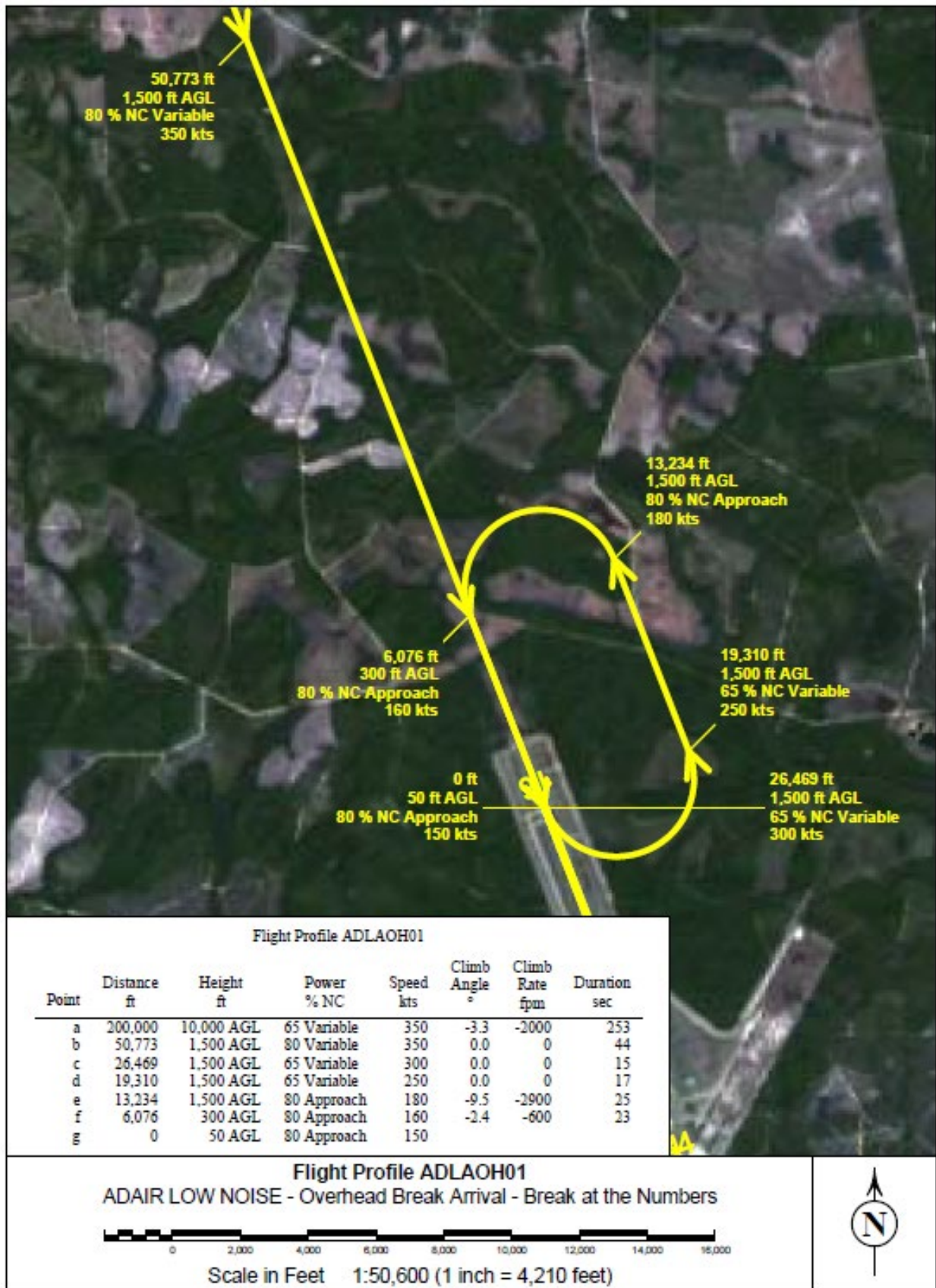
**Supplemental EA for Eglin AFB Combat Air Forces Adversary Air Plus Up  
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Final**



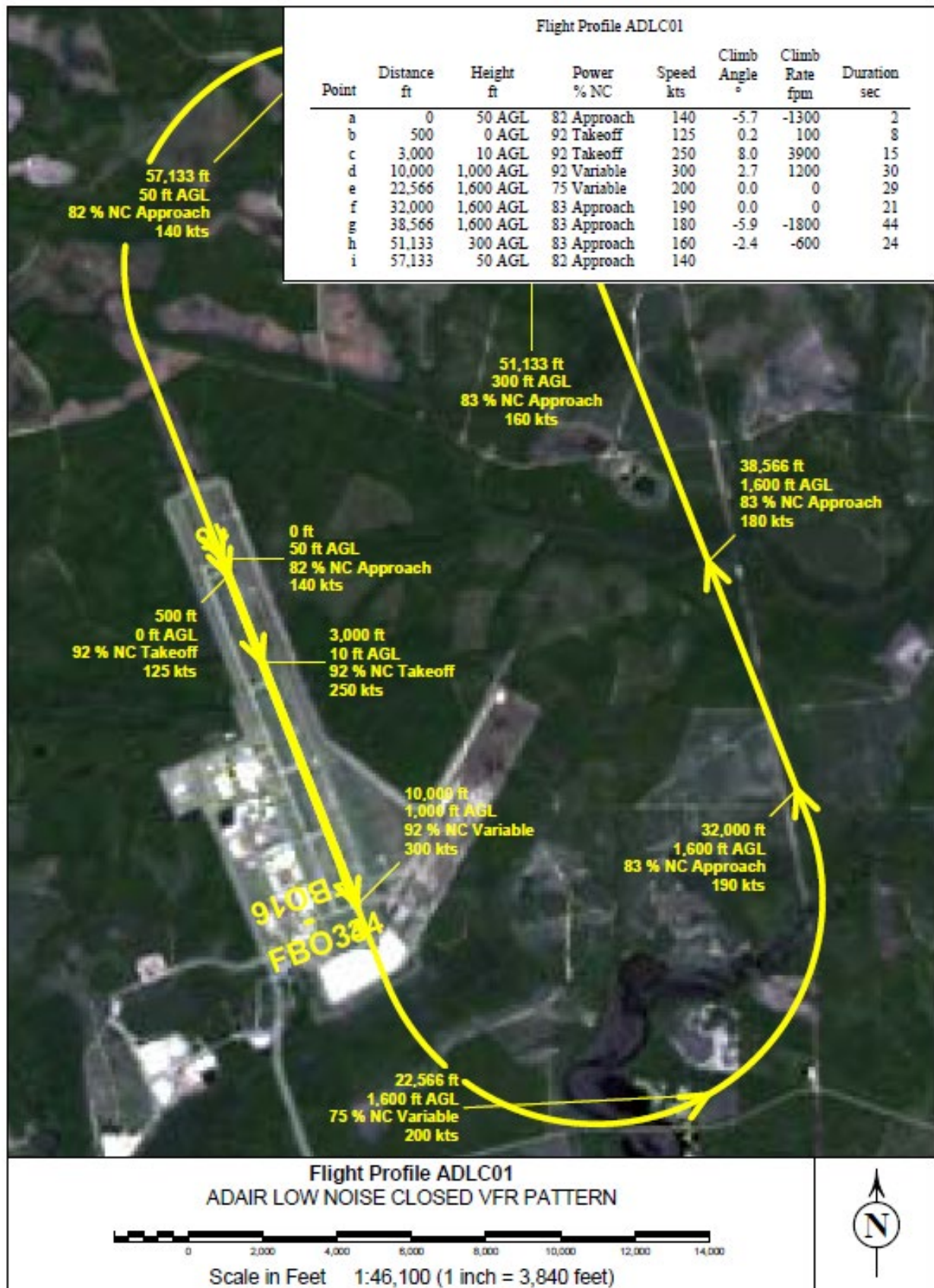
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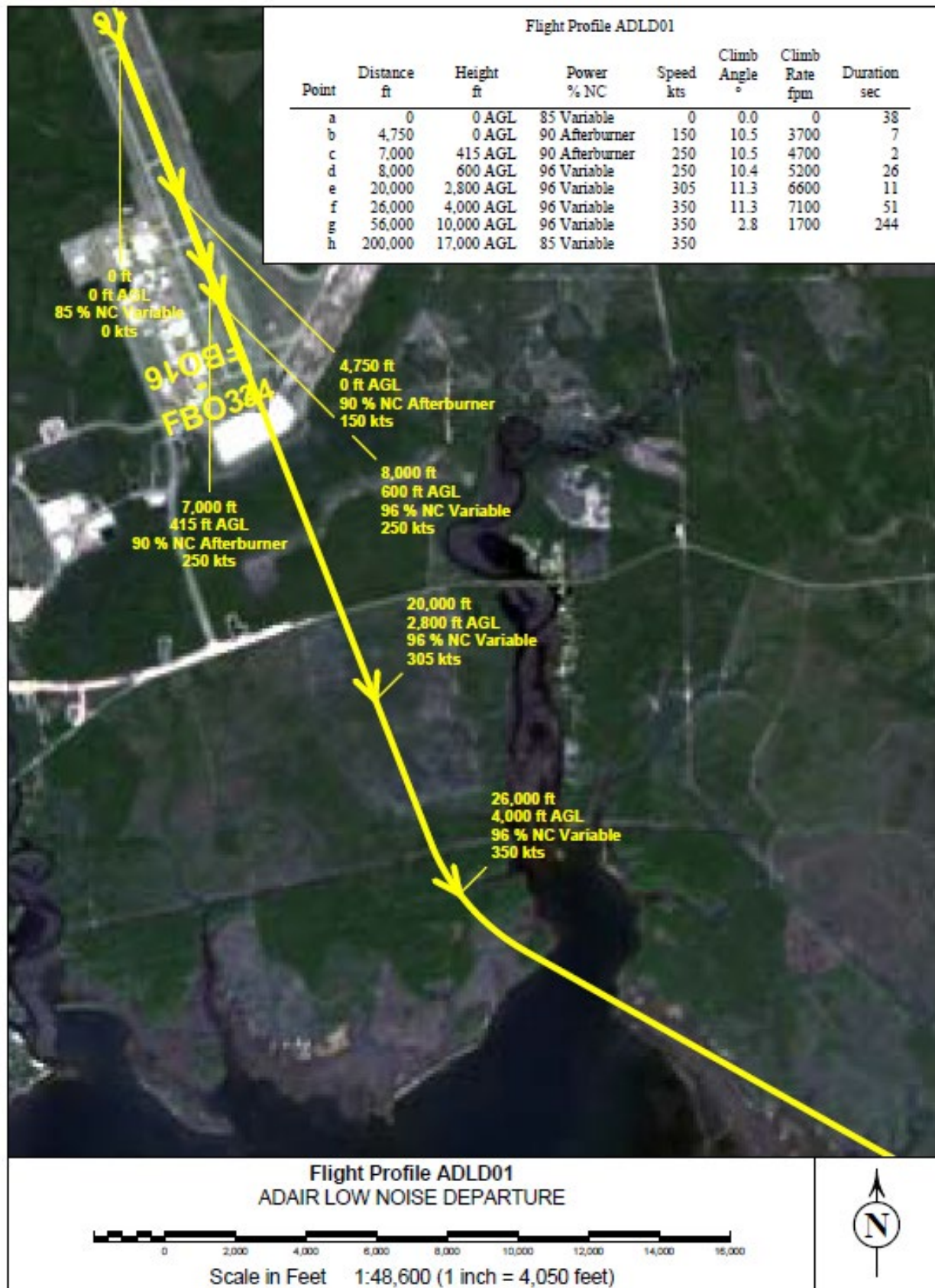


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with F-22 Formal Training Unit  
Final**



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## **C.3      AIR QUALITY AND AIR CONFORMITY APPLICABILITY ANALYSIS**

### **C.3.1      Air Quality**

This appendix presents an overview of the Clean Air Act (CAA) and the relevant state of Florida air quality regulations/standards. It also presents calculations, including the assumptions used for the air quality analyses presented in the Air Quality sections of this EA.

#### **C.3.1.1      Definition of the Resource**

Air Quality is defined in the March 2022 *EA* (Air Force, 2022) and is incorporated by reference.

For air quality, there are two ROIs for each alternative. One includes the Air Quality Control Region (AQCR) within which Eglin AFB (including areas within its vicinity), and ECP (including areas within their vicinities) are located. The other encompasses the airspace over the Gulf of Mexico (Warning Areas W-151 and W-470) and GRASI ATCAA. Eglin AFB (including GRASI ATCAA and W-151) coincides with the Mobile (Alabama)-Pensacola-Panama City (Florida)-Southern Mississippi Interstate AQCR. Warning Area W-470 coincides with Franklin County which is part of the Jacksonville (Florida)-Brunswick (Georgia) Interstate AQCR (40 CFR § 81.91). With respect to Warning Areas W-151 and W-470, nearly all of their airspace is located beyond the State Seaward boundary (9 nautical miles [NM] for the Florida Gulf Coast) and the US territorial sea limit (12 NM from the coast). Thus, there is a 6-NM overlap in state jurisdiction and the Warning Areas; however, both Warning Areas extend roughly 100 NM into the Gulf of Mexico. As a result, it can be assumed that approximately 6 percent of the ADAIR emissions in the Warning Areas would occur in the 6-NM overlap area, which is only a very small portion of the Warning Area would fall under state jurisdiction with respect to National Ambient Air Quality Standards (NAAQS) compliance.

For consideration of potential air quality impacts, it is the volume of air extending up to the mixing height (3,000 ft above ground level [AGL]) and coinciding with the spatial distribution of the ROI that is considered. Pollutants that are released above the mixing height typically will not disperse downward and this will have little or no effect on ground level concentrations of pollutants. The mixing height represents the altitude at which the lower atmosphere will undergo mechanical or turbulent mixing, producing a nearly uniform air mass. The height of the mixing level determines the volume of air within which pollutants can disperse. Mixing heights at any one location or region can vary by the season and time of day, but for air quality applications, an average mixing height of 3,000 ft AGL is an acceptable default value (40 CFR § 93.153[c][2]). A portion of the ADAIR training is expected to occur at or below 3,000 ft within Warning Areas W-151 and W-470. Similarly, in the vicinity of the airfield itself, it is the portions of the landing and takeoff (LTO) and touch and go (TGO)

cycles that occur at or below 3,000 ft that are analyzed. Also considered in the air quality analysis are the ground support that take place on or adjacent to the airfield. Because all ADAIR training will occur above 3,000 ft in the GRASI ATCAA it is not addressed further in the air quality assessment.

### **C.3.1.2 Criteria Pollutants**

In accordance with CAA requirements, the air quality in each region or area is measured by the concentration of various pollutants in the atmosphere. Measurements of these “criteria pollutants” in ambient air are expressed in units of parts per million or in units of micrograms per cubic meter. Regional air quality is a result of the types and quantities of atmospheric pollutants and pollutant sources in an area as well as surface topography, the size of the “air basin,” and prevailing meteorological conditions.

The CAA directed the USEPA to develop, implement, and enforce strong environmental regulations that would ensure clean and healthy ambient air quality. To protect public health and welfare, the USEPA developed numerical concentration-based standards, NAAQS, for pollutants that have been determined to impact human health and the environment and established both primary and secondary NAAQS under the provisions of the CAA. NAAQS are currently established for six criteria air pollutants: ozone (O<sub>3</sub>), carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), sulfur dioxide (SO<sub>2</sub>), respirable particulate matter (including coarse particulate matter [PM<sub>10</sub>] and fine particulate matter [PM<sub>2.5</sub>]), and lead (Pb). The primary NAAQS represent maximum levels of background air pollution that are considered safe, with an adequate margin of safety to protect public health. Secondary NAAQS represent the maximum pollutant concentration necessary to protect vegetation, crops, and other public resources in addition to maintaining visibility standards. The primary and secondary NAAQS are presented in **Table C-9**.

The criteria pollutant O<sub>3</sub> is not usually emitted directly into the air but is formed in the atmosphere by photochemical reactions involving sunlight and previously emitted pollutants, or “O<sub>3</sub> precursors.” These O<sub>3</sub> precursors consist primarily of nitrogen oxides (NO<sub>x</sub>) and volatile organic compounds (VOCs) that are directly emitted from a wide range of emissions sources. For this reason, regulatory agencies limit atmospheric O<sub>3</sub> concentrations by controlling VOC pollutants (also identified as reactive organic gases) and NO<sub>x</sub>.

The USEPA has recognized that particulate matter emissions can have different health affects depending on particle size and, therefore, developed separate NAAQS for PM<sub>10</sub> and PM<sub>2.5</sub>. The pollutant PM<sub>2.5</sub> can be emitted from emission sources directly as very fine dust and/or liquid mist or formed secondarily in the atmosphere as condensable particulate matter, typically forming nitrate and sulfate compounds. Secondary (indirect) emissions vary by region depending upon the predominant emission sources located there and thus which precursors are considered significant for PM<sub>2.5</sub> formation and identified for ultimate control.

The CAA and USEPA delegated responsibility for ensuring compliance with NAAQS to the states and local agencies. As such, each state must develop air pollutant control programs and promulgate regulations and rules that focus on meeting NAAQS and maintaining healthy ambient air quality levels. When a region or area fails to meet a NAAQS for a pollutant, that region is classified as “non-attainment” for that pollutant. In such cases the affected State must develop a State Implementation Plan (SIP) that is subject to USEPA review and approval. A SIP is a compilation of regulations, strategies, schedules, and enforcement actions designed to move the state into compliance with all NAAQS. Any changes to the compliance schedule or plan (e.g., new regulations, emissions budgets, controls) must be incorporated into the SIP and approved by USEPA.

The CAA required the USEPA draft general conformity regulations that are applicable in nonattainment areas, or in designated maintenance areas (i.e., attainment areas that were reclassified from a previous nonattainment status, which are required to prepare a maintenance plan for air quality). These regulations are designed to ensure that federal actions do not impede local efforts to achieve or maintain attainment with the NAAQS. The General Conformity Rule and the promulgated regulations found in 40 CFR Part 93 exempt certain federal actions from conformity determinations (e.g., contaminated site cleanup and natural disaster response activities). Other federal actions are assumed to conform if total indirect and direct project emissions are below de minimis levels presented in 40 CFR § 93.153. The threshold levels (in tons of

pollutant per year) depend upon the nonattainment status that USEPA has assigned to a region. Once the net change in nonattainment pollutants is calculated, the federal agency must compare them to the de minimis thresholds.

**Table C-9  
National Ambient Air Quality Standards**

Pollutant	Standard Value <sup>6</sup>		Standard Type
Carbon Monoxide (CO)			
8-hour average	9 ppm	(10 mg/m³)	Primary
1-hour average	35 ppm	(40 mg/m³)	Primary
Nitrogen Dioxide (NO <sub>2</sub> )			
Annual arithmetic mean	0.053 ppm	(100 µg/m³)	Primary and Secondary
1-hour average <sup>1</sup>	0.100 ppm	(188 µg/m³)	Primary
Ozone (O <sub>3</sub> )			
8-hour average <sup>2</sup>	0.070 ppm	(137 µg/m³)	Primary and Secondary
Lead (Pb)			
3-month average <sup>3</sup>		0.15 µg/m³	Primary and Secondary
Particulate <10 Micrometers (PM <sub>10</sub> )			
24-hour average <sup>4</sup>		150 µg/m³	Primary and Secondary
Particulate <2.5 Micrometers (PM <sub>2.5</sub> )			
Annual arithmetic mean <sup>4</sup>		12 µg/m³	Primary
Annual arithmetic mean <sup>4</sup>		15 µg/m³	Secondary
24-hour average <sup>4</sup>		35 µg/m³	Primary and Secondary
Sulfur Dioxide (SO <sub>2</sub> )			
1-hour average <sup>5</sup>	0.075 ppm	(196 µg/m³)	Primary
3-hour average <sup>5</sup>	0.5 ppm	(1,300 µg/m³)	Secondary

Source: USEPA, 2016

**Notes:**

- <sup>1</sup> In February 2010, the USEPA established a new 1-hour standard for NO<sub>2</sub> at a level of 0.100 ppm, based on the 3-year average of the 98th percentile of the yearly distribution concentration, to supplement the then-existing annual standard.
- <sup>2</sup> In October 2015, the USEPA revised the level of the 8-hour standard to 0.070 ppm, based on the annual 4th highest daily maximum concentration, averaged over 3 years; the regulation became effective on 28 December 2015. The previous (2008) standard of 0.075 ppm remains in effect for some areas. A 1-hour standard no longer exists.
- <sup>3</sup> In November 2008, USEPA revised the primary Pb standard to 0.15 µg/m<sup>3</sup>. USEPA revised the averaging time to a rolling 3-month average.
- <sup>4</sup> In October 2006, USEPA revised the level of the 24-hour PM<sub>2.5</sub> standard to 35 µg/m<sup>3</sup> and retained the level of the annual PM<sub>2.5</sub> standard at 15 µg/m<sup>3</sup>. In 2012, USEPA split standards for primary & secondary annual PM<sub>2.5</sub>. All are averaged over 3 years, with the 24-hour average determined at the 98th percentile for the 24-hour standard. USEPA retained the 24-hour primary standard and revoked the annual primary standard for PM<sub>10</sub>.
- <sup>5</sup> In 2012, the USEPA retained a secondary 3-hour standard, which is not to be exceeded more than once per year. In June 2010, USEPA established a new 1-hour SO<sub>2</sub> standard at a level of 75 parts per billion, based on the 3-year average of the annual 99th percentile of 1-hour daily maximum concentrations.
- <sup>6</sup> Parenthetical value is an approximately equivalent concentration for NO<sub>2</sub>, O<sub>3</sub>, and SO<sub>2</sub>.  
µg/m<sup>3</sup> = microgram(s) per cubic meter; mg/m<sup>3</sup> = milligram(s) per cubic meter; ppm = part(s) per million; USEPA = United States Environmental Protection Agency

Title V of the CAA Amendments of 1990 requires state and local agencies to implement permitting programs for major stationary sources. A major stationary source is a facility (plant, base, activity, etc.) that has the potential to emit more than 100 tons annually of any one criteria air pollutant in an attainment area.

Federal Prevention of Significant Deterioration (PSD) regulations also define air pollutant emissions from proposed major stationary sources or modifications to be “significant” if a proposed project’s net emission increase meets or exceeds the rate of emissions listed in 40 CFR § 52.21(b)(23)(i); or (1) a proposed project is within 10 miles of any Class I area (wilderness area greater than 5,000 acres [ac] or national park greater than 6,000 ac).



Although Titles I and V of the CAA Amendments of 1990 apply to Eglin AFB and ECP, compliance requirements under the relevant regulations would not apply. This is because virtually all of the emissions increase from the Proposed Action would occur from mobile sources, which are not governed by Titles I and V. As such, the requirements originating from these titles are not considered further.

The Florida Department of Environmental Protection (FDEP) Division of Air Resource Management implements the federal CAA and related Florida statutes that are codified in Chapter 62 of the Florida Administrative Code. With respect to ambient air quality standards Florida Administrative Code 62-204.800 adopts the National Primary and Secondary Ambient Air Quality Standards (40 CFR Part 50) by reference, thereby requiring the use of the standards within the State of Florida. Florida's statewide air quality monitoring network is operated by both state and local environmental programs. The air is monitored for CO, Pb, NO<sub>2</sub>, O<sub>3</sub>, PM<sub>2.5</sub>, PM<sub>10</sub> and SO<sub>2</sub>. Not all pollutants are monitored in all areas.

#### **C.3.1.3 Greenhouse Gases**

Greenhouse gases (GHGs) are gases that trap heat in the atmosphere. These emissions are generated by both natural processes and human activities. The accumulation of GHGs in the atmosphere helps regulate the earth's temperature and are believed to contribute to global climate change. GHGs include water vapor, carbon dioxide (CO<sub>2</sub>), methane, nitrous oxide, O<sub>3</sub>, and several hydrocarbons and chlorofluorocarbons. Each GHG has an estimated global warming potential (GWP), which is a function of its atmospheric lifetime and its ability to absorb and radiate infrared energy emitted from the earth's surface. The GWP of a particular gas provides a relative basis for calculating its carbon dioxide equivalent (CO<sub>2</sub>e) or the amount of CO<sub>2</sub>e to the emissions of that gas. CO<sub>2</sub> has a GWP of 1 and is, therefore, the standard by which all other GHGs are measured. Potential impacts associated with GHG emissions are discussed in **Section C.3.1.4**.

In Florida, the US Environmental Protection Agency (USEPA) regulates GHG primarily through a permitting program known as the GHG Tailoring Rule. This rule applies to GHG emissions from stationary sources. As virtually all of the emissions increase from the Proposed Action would occur from mobile sources, this rule does not apply here. As such, this rule is not considered further. Again, this only applies to stationary sources of emissions.

In addition to the GHG Tailoring Rule in 2009, the USEPA promulgated a rule requiring sources to report their GHG emissions if they emit 25,000 metric tons or more of CO<sub>2</sub>e per year (40 CFR § 98.2[a][2]). Again, this only applies to stationary sources of emissions.

#### **C.3.1.4 Climate Change Considerations**

Like many locations, climate trends in the Florida Panhandle appear to be reflecting the influence of global warming. The sea level is predicted to rise up to 26 in. by 2100 (NASA, 2021). This would have negative effects on the marine wildlife, coral reef off the coast of Florida, and economic effects on waterfront property and communities. The warmer waters and sea level rise would create an increase in salinity levels around the panhandle that will affect established fish populations in the estuaries (Havens, 2018). In addition, sea level rises in Florida threaten to contaminate underwater freshwater aquifers that many residents in Florida depend on.

While research is ongoing to understand the connection between climate and the formation of intense hurricanes, the risk to low-lying and oceanfront areas, and the catastrophic impacts of storm surge from hurricanes as a result of sea level rise are well documented. In addition, a warming planet means the atmosphere can hold more moisture resulting in more extreme rainfall events such as observed with Hurricanes Harvey and Florence.

To serve as a reference point, projected GHG emissions were compared against State of Florida GHG emissions from fossil fuel combustion and to the Title V and PSD major source thresholds for CO<sub>2</sub>e applicable to stationary sources (**Table C-10**). Based on the relative magnitude of the project's GHG emissions, a general inference can be drawn regarding whether the Proposed Action is meaningful with respect to the discussion regarding climate change.

**Table C-10** demonstrates, GHG emissions for all three emission scenarios would be well below regulatory thresholds for stationary source permitting and would account for about 0.063 percent of the Florida GHG emissions that are the result fossil fuel combustion. Based on this analysis, the GHG emissions from the proposed action operations are not considered significant relative to state emissions.

**Table C-10  
Metrics for Greenhouse Gas Emission Impacts**

Emission Scenario	Projected CO <sub>2</sub> e Emissions (tpy) <sup>1,2</sup>	CO <sub>2</sub> e Regulatory Thresholds (tpy)		Florida 2019 GHG Inventory (million metric tpy) <sup>3,4</sup>	Proposed Action % of Florida GHG Emissions <sup>5</sup>
		Title V Permit	PSD New/Modified Source		
High	56,648	100,000	100,000/75,000	90.468	0.063
Medium	9,444				
Low	6,035				

Source: USEPA, 2022

Notes:

<sup>1</sup> CO<sub>2</sub>e = carbon dioxide equivalent from Air Conformity Applicability Model

<sup>2</sup> Sum of highest emissions from airfield operations, warning area sorties, flares and from F22 FTU operations.

<sup>3</sup> Represents metric tons of CO<sub>2</sub>e from power plants (fossil fuel combustion).

<sup>4</sup> Percentage based on worst case (high) emission scenario.

ADAIR = adversary air; GHG = greenhouse gas; PSD = Prevention of Significant Deterioration; tpy = ton(s) per year

### **C.3.2 Air Conformity Applicability Analysis**

Section 176(c) (1) of the CAA contains legislation that ensures federal activities conform to relevant SIPs and thus do not hamper local efforts to control air pollution. Conformity to a SIP is defined as conformity to a SIP's purpose of eliminating or reducing the severity and number of violations of the NAAQS and achieving expeditious attainment of such standards. As such, a general conformity analysis is required for areas of nonattainment or maintenance where a federal action is proposed.

The action can be shown to conform by demonstrating that the total direct and indirect emissions are below the *de minimis* levels (**Table C-11**) and/or showing that the Proposed Action emissions are within the State- or Tribe-approved budget of the facility as part of the SIP or Tribal Implementation Plan (USEPA, 2010).

Direct emissions are those that occur as a direct result of the action. For example, emissions from new equipment that are a permanent component of the completed action (e.g., boilers, heaters, generators, paint booths) are considered direct emissions. Indirect emissions are those that occur at a later time or at a distance from the Proposed Action. For example, increased vehicular/commuter traffic because of the action is considered an indirect emission. Construction emissions must also be considered. For example, the emissions from vehicles and equipment used to clear and grade building sites, build new buildings, and construct new roads must be evaluated. These types of emissions are considered direct emissions.

Each state is required to develop a SIP that sets forth how CAA provisions will be imposed within the state. The SIP is the primary means for the implementation, maintenance, and enforcement of the measures needed to attain and maintain the NAAQS within each state and includes control measures, emissions limitations, and other provisions required to attain and maintain the ambient air quality standards. The purpose of the SIP is twofold. First, it must provide a control strategy that will result in the attainment and maintenance of the NAAQS. Second, it must demonstrate that progress is being made in attaining the standards in each nonattainment area.

The Air Quality Monitoring Program monitors ambient air throughout the state. The purpose is to monitor, assess, and provide information on statewide ambient air quality conditions and trends as specified by the state and federal CAA. The Air Quality Monitoring Program works in conjunction with local air pollution agencies and some industries, measuring air quality throughout the states.

**Table C-11  
General Conformity Rule *De Minimis* Emission Thresholds**

<b>Pollutant</b>	<b>Attainment Classification</b>	<b>Tons per year</b>
Ozone (VOC and NO <sub>x</sub> )	Serious nonattainment	50
	Severe nonattainment	25
	Extreme nonattainment	10
	Other areas outside an ozone transport region (applicable to all alternatives)	100
Ozone (NO <sub>x</sub> )	Marginal and moderate nonattainment inside an ozone transport region	100
	Maintenance	100
Ozone (VOC)	Marginal and moderate nonattainment inside an ozone transport region	50
	Maintenance within an ozone transport region	50
	Maintenance outside an ozone transport region	100
Carbon Monoxide, SO <sub>2</sub> and NO <sub>2</sub>	All nonattainment and maintenance	100
PM <sub>10</sub>	Serious nonattainment	70
	Moderate nonattainment and maintenance	100
PM <sub>2.5</sub> Direct emissions, SO <sub>2</sub> , NO <sub>x</sub> (unless determined not to be a significant precursor), VOC and ammonia (if determined to be significant precursors)	All nonattainment and maintenance	100
Lead	All nonattainment and maintenance	25

Source: USEPA, 2017

NO<sub>2</sub> = nitrogen dioxide; NO<sub>x</sub> = nitrogen oxides; PM<sub>2.5</sub> = particulates equal to or less than 2.5 microns in diameter; PM<sub>10</sub> = particulates equal to or less than 10 microns in diameter; SO<sub>2</sub> = sulfur dioxide; VOC = volatile organic compound

The air quality monitoring network is used to identify areas where the ambient air quality standards are being violated and plans are needed to reduce pollutant concentration levels to be in attainment with the standards. Also included are areas where the ambient standards are being met, but plans are necessary to ensure maintenance of acceptable levels of air quality in the face of anticipated population or industrial growth.

The result of this attainment/maintenance analysis is the development of local and statewide strategies for controlling emissions of criteria air pollutants from stationary and mobile sources. The first step in this process is the annual compilation of the ambient air monitoring results, and the second step is the analysis of the monitoring data for general air quality, exceedances of air quality standards, and pollutant trends.

### **C.3.2.2 Assumptions**

The following are assumptions were used in the air quality analysis for the Proposed Action:

1. No construction (or negligible construction) would be associated with any of the proposed alternatives. This includes no demolition, earth moving, hauling, or paving. Some minor interior

- building fabrication would be possible but affected square footage is too small to result in outdoor air quality impacts. This may include upgrade to fire suppression/life support systems.
2. No installation of new boilers or generators. No generators would be used for the Proposed Action.
  3. No new storage tanks would be installed – additional Jet-A fuel needed by contractor aircraft would be calculated based on additional engine type, number of sorties, and an average engine fuel consumption rate.
  4. No new Hush House/Engine Test Cell facilities would be installed, and existing Hush House/Engine Test Cell facilities would not be used for ADAIR contractor aircraft.
  5. No new paint booth facilities would be installed, and existing paint booths would not be used for ADAIR contract aircraft.
  6. Contractor may bring their own parts cleaner (or share already installed unit unknown at this time) – for either case it is assumed contractor use would be minimal – (no more than 0.5 gallon/month solvent used/lost).
  7. Maintenance for contractor aircraft would be limited to minor repairs and minor routine maintenance/inspections (significant repairs, schedule/phased maintenance and inspections to be conducted off-site).
  8. While ADAIR targeted performance is estimated to start in January 2023 with a 10-year contract, the emissions were estimated for each year of the Proposed Action beginning in January 2023 and ending in December 2032. For air quality modeling purposes, these are representative years; the modeling generates air emissions estimates for the life of a representative 10-year contract.
  9. Contractor aircraft takeoff and landing cycles – use/assume Air Conformity Applicability Model (ACAM) default "times in mode" to be conservative.
  10. Assume once an aircraft is out of the LTO cycle the time spent traveling to/from the SUA (5 to 20 minutes) would be at an altitude above 3,000 ft.
  11. Assume mixing height is 3,000 ft, which matches USEPA and Air Force Guidance.
  12. Air Force training sorties would not increase or decrease as result of this action. Roles may change (i.e., the Air Force no longer need to play the adversary, but this would not change in any substantial way the number of Air Force sorties flown); thus, the change (increase) in emissions for air operations at Eglin AFB as well as at the proposed regional airports would be strictly due to the addition of the contract ADAIR aircraft and associated ground and maintenance activities.
  13. Air Force use of engine test cells/hush house would not change as a result of the Proposed Action. No changes to Air Force trim tests also assumed.
  14. For contractor aerospace ground equipment (AGE) and auxiliary power units (APUs) – until the contractor is selected, what they would bring/use in terms of AGE and APUs is unknown, thus ACAM defaults will be used based on the surrogate aircraft and engine type.
  15. Assume contract aircraft would engage in LTO cycles and TGO or low-approach activities only in the vicinity of the airfield.
  16. Assume an additional 5 percent of on-airfield sorties (2,400 or 600) would include multiple patterns for contractor proficiency.
  17. It is unknown what contractor requirements would be for trim tests; thus, ACAM defaults will be assumed based on surrogate aircraft and engine type.
  18. Assume all new ADAIR contractor personnel (pilots and maintenance staff) would live off-base and commute to the base or regional airport 5 days per week. ACAM defaults will be used for commute distances.
  19. All contract ADAIR training sorties would utilize chaff and flares. Only RR-188 chaff and M206 flares, or equivalent, would be utilized (no other materials will be considered in the analysis). Flares would be used in Warning Areas W-151 and W-470 and are considered.
  20. Assume air quality impacts from chaff releases under actual flight conditions would be low and would have negligible impact on the particulate matter with a diameter of less than 10 and 2.5 micrometers NAAQS (Air Force, 1997); thus, only the use of flares and impulse cartridges (if applicable) used at or below 3,000 ft will be considered in the air quality analysis. It is assumed flares used above 3,000 ft would disperse and not affect air quality in the lowest 3,000 ft AGL.
  21. For the High Emission Scenario, the surrogate for the MIG-29 is the F-15 A/BC/D with engine model F100-PW-100.



22. For the Medium Emission Scenario, the surrogate for the Mirage is the F-16 C/D with engine model F110-GE-100.
23. For the Low Emission Scenario, the aircraft is F5A/F5B with engine model J85-GE-13.
24. All ADAIR related training from Eglin AFB or ECP would occur in Warning Areas W-151 and W-470. GRASI ATCAA is not included in the air quality analysis.
25. Contractor training/mission time in Warning Areas W-151 and W-470 would be approximately 45 to 60 minutes. Time spent at or below 3,000 ft is estimated to be approximately 4.73 minutes based on an average training time spent of 52.5 minutes (see **Table C-12**) in the Warning Areas.
26. ACAM does not have separate inputs for time spent within Warning Areas. To represent the time spent at or below 3,000 ft, 4.73 minutes was assigned to Climb out/Intermediate power mode within the ACAM LTO input fields. No time was assigned to any other power modes, but default ACAM output also lists trim tests and TGOs; however, all inputs for these fields were set to zero for time spent within the SUA (**Table C-12**).
27. Assume the time spent below 3,000 ft AGL would be the same for all sorties.
28. No changes to baseline aircraft air operations (sorties) at Eglin AFB or at the proposed civilian airports due to contract ADAIR and no changes to transient and civilian air operations due to contract ADAIR.
29. For consideration of potential air quality impacts, it is the volume of air extending up to the mixing height (3,000 ft AGL) and coinciding with the spatial distribution of the region of influence that is considered. Pollutants that are released above the mixing height typically would not disperse downward and thus would have little or no effect on ground level concentrations of pollutants. The mixing height is the altitude at which the lower atmosphere undergoes mechanical or turbulent mixing, producing a nearly uniform air mass. The height of the mixing level determines the volume of air within which pollutants can disperse. Mixing heights at any one location or region can vary by the season and time of day, but for air quality applications, an average mixing height of 3,000 ft AGL is an acceptable default value (40 CFR § 93.153[c][2]). Although the proposed contract ADAIR training is projected to occur within the GRASI ATCAA and Warning Areas W-151 and W-470, only those with training at or below 3,000 ft AGL are a concern with respect to potential air quality impacts.
30. **Tables C-12** and **C-13** below show the data and assumptions used as input to ACAM for flight operations.
31. The F-22 FTU remains unchanged and no re-analyses of these operations is included.

**Table C-12  
Special Use Airspace Assumptions and Air Conformity Applicability Model Data Inputs**

<b>Special Use Airspace</b>	<b>No. of Sorties in SUA<sup>1</sup></b>	<b>Mission Altitude</b>	<b>Total Mission Time (minutes) ≤3,000 ft AGL</b>	<b>Power Mode<sup>2</sup></b>
W-151 (A-F)	1,862 (ADAIR) 466 (Plus Up)	Surface	4.73 <sup>a</sup>	Intermediate/ Climb out
GRASI ATCAA	N/A <sup>3</sup>	8,000 ft AGL to FL180	Not Assigned (>3,000 ft AGL)	N/A
W-470 (A-E)	72 (ADAIR) 16 (Plus Up)	Surface	4.73 <sup>a</sup>	Intermediate/ Climb out

Notes:

<sup>1</sup> Based on 2,400 for Contract ADAIR or 600 for ADAIR Plus Up total sorties in special use airspace.

<sup>2</sup> ACAM does not have separate inputs for time spent within each SUA. To represent the time spent within a segment of the SUA, the expected flight time at or below 3,000 ft (4.73 minutes) was assigned to Climb out/Intermediate power mode within the ACAM LTO input fields. No time was assigned to any other power modes.

<sup>a</sup> Based on 52.5 minutes per sortie and based on percent of time (9%) spent operating in SUA of 3,000 ft AGL or less. (Source: Data on percent time spent operating in the special use airspace is from ADAIR Eglin airspace data provided by KBR Wyle).

<sup>3</sup> Sorties occur above the mixing height. No emissions calculated.

ACAM = Air Conformity Applicability Model; ADAIR = adversary air; AGL = above ground level; CAF = Combat Air Forces; ft = feet; LTO = landing and takeoff; MSL = mean sea level; N/A = not applicable

**Table C-13  
Times in Mode<sup>1</sup> (Minutes) for Aircraft Operations**

Type of Operation	Number of Sorties	Taxi/Idle (out)	Takeoff (Military and/or Afterburn)	Climb Out	Approach	Taxi/Idle (in)
LTO	2,400 (ADAIR) 600 (Plus UP)	18.5	0.4	0.8	3.5	11.3
TGO <sup>2</sup>	360 (ADAIR) 90 (Plus Up)	-	0.4	0.8	3.5	-

Notes:

<sup>1</sup> Given time in mode applicable to all emission scenarios (High, Medium, and Low)

<sup>2</sup> 5 percent of total sorties (2,400 for ADAIR and 600 for Plus Up) are expected to include multiple patterns for contractor proficiency. Each of those 5 percent sorties are assumed to include three TGO/low approaches.

LTO = landing and takeoff; TGO = touch and go

### **C.3.2.3 Significance Indicators and Evaluation Criteria**

The CAA Section 176(c), *General Conformity*, requires federal agencies to demonstrate that their proposed activities would conform to the applicable SIP for attainment of the NAAQS. General conformity applies only to nonattainment and maintenance areas. If the emissions from a federal action proposed in a nonattainment area exceed annual *de minimis* thresholds identified in the rule, a formal conformity determination is required of that action.

The overland project areas associated with Eglin AFB, ECP and SUA are in an attainment or in an unclassified area for all NAAQS. Because of this, the General Conformity Rule does not apply in these regions.

Based on guidance in Chapter 4 of the *Air Force Air Quality Environmental Impact Analysis Process (EIAP) Guide*, Volume II – Advanced Assessments, project criteria pollutant emissions were compared against the insignificance indicator of 250 tons per year (tpy) for PSD major source threshold for actions occurring in areas that are in attainment for all criteria pollutants (25 tpy for lead). These “Insignificance Indicators” were used in the analysis to provide an indication of the significance of potential impacts to air quality based on current ambient air quality relative to the NAAQSs. These insignificance indicators do not define a significant impact; however, they do provide a threshold to identify actions that are insignificant. Any action with net emissions below the insignificance indicators for all criteria pollutant is considered so insignificant that the action will not cause or contribute to an exceedance on one or more NAAQSs. Although PSD and Title V are not applicable to mobile sources, the PSD major source thresholds provide a benchmark to compare air emissions against and to determine project impacts.

Emissions from the Proposed Action in the vicinity of the Eglin AFB, ECP, and within portions of the SUA were assessed and compared to applicable significance indicators or regulatory thresholds.<sup>1</sup>

**Section C.3.4** of this appendix provides a single Detailed ACAM Report to demonstrate the ACAM inputs and the calculation methodologies used to estimate emissions. The following sections provide Record of Air Analysis for the various alternatives as follows:

- **Sections C.3.5** provides the ACAM Report – Record of Air Analysis for Eglin AFB (Alternative 1)
- **Section C.3.6** provides the ACAM Report – Record of Air Analysis for Eglin AFB (Alternatives 2 and 3)

<sup>1</sup> Note: The ACAM analysis summary report for the low emissions scenario indicates that the “Insignificance Indicator” of 250 tpy for CO has been exceeded. It is unclear as to why the model has made the finding of exceedance of the indicator level for this scenario as the insignificance indicator level in the summary table is shown to be 250 tpy and the action emissions for the low scenario for CO are clearly shown to be below the 250 tpy level.

- **Section C.3.7** provides the ACAM Report –Record of Air Analysis for Northwest Florida Beaches International Airport (Alternative 4)
- **Section C.3.8** provides the ACAM Report – Record of Air Analysis for Warning Area W-151 (Alternative 1)
- **Sections C.3.9** provides the Record of Air Analysis for Warning Areas W-470 (Alternative 1)
- **Sections C.3.10** provides the Record of Air Analysis for Warning Areas W-151 (Alternatives 2,3 and 4)
- **Sections C.3.11** provides the Record of Air Analysis for Warning Areas W-470 (Alternatives 2,3 and 4)

### **C.3.3      References**

- Air Force. 1997. *Environmental Effects of Self-protection Chaff and Flares: Final Report*. Prepared for Headquarters Air Combat Command, Langley Air Force Base, Virginia. August.
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- NASA. 2021. *Sea Level Rise Study*. <<https://climate.nasa.gov/news/2680/new-study-finds-sea-level-rise-accelerating/>>. Accessed 28 June 2021.
- USEPA. 2010. *40 CFR Parts 51 and 93, Revisions to the General Conformity Regulations*. 75 Federal Register 14283, EPA-HQ-OAR-2006-0669; FRL-9131-7. 24 March.
- USEPA. 2016. *NAAQS Table*. <<https://www.epa.gov/criteria-air-pollutants/naaqs-table>>. Accessed 22 March 2021.
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- USEPA. 2022. *2021 Greenhouse Gas Emissions from Point Sources*. Data Extracted from EPA's FLIGHT Tool. <<http://ghgdata.epa.gov/ghgp>>. Accessed November 2022.

### **C.3.4 Detailed Air Conformity Applicability Model Report**

#### **1. General Information**

##### **- Action Location**

**Base:** EGLIN AFB  
**State:** Florida  
**County(s):** Okaloosa  
**Regulatory Area(s):** NOT IN A REGULATORY AREA

**- Action Title:** Eglin AFB Combat Air Force Adversary Air Plus Up with F-22 Formal Training Unit, Florida  
- Alternatives 2 & 3

**- Project Number/s (if applicable):** N/A

**- Projected Action Start Date:** 1 / 2023

##### **- Action Purpose and Need:**

The purpose of the Proposed Action is to add contract adversary air (ADAIR) sorties in support of training operations at Eglin AFB, Florida above what was previously analyzed in the March 2022 EA. Further, this EA also evaluates the continued operation of the F-22 FTU at Eglin AFB along with the implementation of permanent contract ADAIR operations in support of Eglin AFB, until an F-22 FTU departure decision can be made and implemented.

The Proposed Action would provide additional ADAIR sorties to improve the quality of training and readiness of pilots of the 33 FW and other units supported by Eglin AFB. The purpose for establishing the contract ADAIR program has been discussed by the Air Force in detail in 2022 ADAIR EA. To meet the training needs of the 33 FW and other units operating from Eglin AFB, additional contract ADAIR sorties are required which would be needed to provide better and more realistic training for pilots of various fighter aircraft at Eglin AFB.

##### **- Action Description:**

In the previously analyzed EA, Eglin AFB or the civil airports proposed for use and military training SUA were analyzed for possible suitable use by contract ADAIR service provider to support Eglin AFB operations. The elements affecting the Eglin AFB or the civil airports proposed for use included contract ADAIR aircraft, facilities, maintenance, personnel, and sorties. The previously analyzed EA included an estimated 12 contractor aircraft to fly roughly 2,400 annual sorties to support the 33 FW and other units at Eglin AFB. Additional traffic patterns were anticipated to be no more than 5 percent of the annual sortie total, about 120 sorties for a total of 2,520 annual sorties from the selected airport.

This Proposed Action includes contracting an estimated four (4) additional contractor aircraft to fly roughly 600 additional annual ADAIR sorties to support the 33 FW and other units at Eglin AFB, potentially including the F-22 FTU. The proposed number of sorties varies depending on the alternative. Additional traffic patterns are anticipated to be no more than 5 percent of the annual sortie total, about 30 sorties for a total of 630 annual sorties from the selected airport. The analysis examines three separate emission scenarios: high, medium, and low. No significant construction is anticipated as a result of the action. If it is later determined construction is required at the airfield a separate environmental analysis would be completed as required.

##### **- Point of Contact**

**Name:** Radhika Narayanan  
**Title:** Environmental Scientist  
**Organization:** Versar, LLC



**Supplemental EA for Eglin AFB Combat Air Forces Adversary Air Plus Up  
with F-22 Formal Training Unit  
Final**

**Email:** rnarayanan@versar.com  
**Phone Number:** n/a

**- Activity List:**

Activity Type		Activity Title
2.	Aircraft	Eglin AFB Airfield Operations - High Emissions Scenario
3.	Personnel	Additional Personnel
4.	Degreaser	Minor Parts Cleaning - ADAIR Contractor Aircraft
5.	Tanks	Jet A Storage (Tank ID/Bldg Number: 1076 / 762)
6.	Tanks	Jet A Storage (Tank ID/Bldg Number: 1091 / 1302)
7.	Tanks	Jet A Storage (Tank ID/Bldg Number: 1092 / 1302)
8.	Tanks	Jet A Storage (Tank ID/Bldg Number: 1080 / 762)
9.	Tanks	Jet A Storage (Tank ID/Bldg Number: 1078/762)
10.	Tanks	Jet A Storage (Tank ID/Bldg. Number: 2596 / 92)
11.	Tanks	Jet A Storage (Tank ID/Bldg. Number: 2690 / 945)
12.	Tanks	Jet A Storage (Tank ID/Bldg. Number: 1224 / 3206)
13.	Tanks	Jet A Storage (Tank ID/Bldg Number: 1223 / 3208)

Emission factors and air emission estimating methods come from the United States Air Force's Air Emissions Guide for Air Force Stationary Sources, Air Emissions Guide for Air Force Mobile Sources, and Air Emissions Guide for Air Force Transitory Sources.

## 2. Aircraft

### 2.1 General Information & Timeline Assumptions

**- Add or Remove Activity from Baseline?** Add

**- Activity Location**

**County:** Okaloosa  
**Regulatory Area(s):** NOT IN A REGULATORY AREA

**- Activity Title:** Eglin AFB Airfield Operations - High Emissions Scenario

**- Activity Description:**

Contractor ADAIR sorties and proficiency training based out of Eglin AFB Airfield.  
High Emission Scenario: 2x F100-PW-100 Engines (Surrogate for MiG-29).  
ACAM default time in mode used.  
4 F-15A aircraft, 600 sorties (LTOs), 90 TGOs.

**- Activity Start Date**

**Start Month:** 1  
**Start Year:** 2023

**- Activity End Date**

**Indefinite:** No  
**End Month:** 12  
**End Year:** 2032

**- Activity Emissions:**

Pollutant	Total Emissions (TONs)
VOC	26.209024

Pollutant	Total Emissions (TONs)
PM 2.5	19.209248

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SO <sub>x</sub>	12.861654
NO <sub>x</sub>	155.586407
CO	223.272716
PM 10	21.098164

Pb	0.000000
NH <sub>3</sub>	0.000000
CO <sub>2e</sub>	30815.3

**- Activity Emissions [Flight Operations (includes Trim Test & APU) part]:**

Pollutant	Total Emissions (TONs)
VOC	15.584820
SO <sub>x</sub>	10.721500
NO <sub>x</sub>	125.014869
CO	204.630602
PM 10	17.946680

Pollutant	Total Emissions (TONs)
PM 2.5	16.152012
Pb	0.000000
NH <sub>3</sub>	0.000000
CO <sub>2e</sub>	29205.7

**- Activity Emissions [Aerospace Ground Equipment (AGE) part]:**

Pollutant	Total Emissions (TONs)
VOC	10.624204
SO <sub>x</sub>	2.140154
NO <sub>x</sub>	30.571537
CO	18.642114
PM 10	3.151484

Pollutant	Total Emissions (TONs)
PM 2.5	3.057236
Pb	0.000000
NH <sub>3</sub>	0.000000
CO <sub>2e</sub>	1609.6

## 2.2 Aircraft & Engines

### 2.2.1 Aircraft & Engines Assumptions

**- Aircraft & Engine**

Aircraft Designation: F-15A  
 Engine Model: F100-PW-100  
 Primary Function: Combat  
 Aircraft has After burn: Yes  
 Number of Engines: 2

**- Aircraft & Engine Surrogate**

Is Aircraft & Engine a Surrogate? No  
 Original Aircraft Name:  
 Original Engine Name:

### 2.2.2 Aircraft & Engines Emission Factor(s)

**- Aircraft & Engine Emissions Factors (lb/1000lb fuel)**

	Fuel Flow	VOC	SO <sub>x</sub>	NO <sub>x</sub>	CO	PM 10	PM 2.5	CO <sub>2e</sub>
Idle	1127.00	3.79	1.07	4.64	49.58	3.13	2.82	3234
Approach	2765.00	1.06	1.07	12.52	3.99	1.57	1.41	3234
Intermediate	7685.00	0.14	1.07	27.09	0.72	0.72	0.65	3234
Military	10996.00	0.12	1.07	35.01	0.70	1.24	1.12	3234
After Burn	54007.00	0.13	1.07	6.62	9.57	0.87	0.78	3234

## 2.3 Flight Operations

### 2.3.1 Flight Operations Assumptions

**- Flight Operations**

Number of Aircraft:

4

Number of Annual LTOs (Landing and Take-off) cycles for all Aircraft:	600
Number of Annual TGOs (Touch-and-Go) cycles for all Aircraft:	90
Number of Annual Trim Test(s) per Aircraft:	12

- Default Settings Used: Yes

**- Flight Operations TIMs (Time In Mode)**

Taxi/Idle Out [Idle] (mins):	18.5 (default)
Takeoff [Military] (mins):	0.2 (default)
Takeoff [After Burn] (mins):	0.2 (default)
Climb Out [Intermediate] (mins):	0.8 (default)
Approach [Approach] (mins):	3.5 (default)
Taxi/Idle In [Idle] (mins):	11.3 (default)

Per the Air Emissions Guide for Air Force Mobile Sources, the defaults values for military aircraft equipped with after burner for takeoff is 50% military power and 50% afterburner. (Exception made for F-35 where KARNES 3.2 flight profile was used)

**- Trim Test**

Idle (mins):	12 (default)
Approach (mins):	27 (default)
Intermediate (mins):	9 (default)
Military (mins):	9 (default)
AfterBurn (mins):	3 (default)

### 2.3.2 Flight Operations Formula(s)

**- Aircraft Emissions per Mode for LTOs per Year**

$$AEM_{POL} = (TIM / 60) * (FC / 1000) * EF * NE * LTO / 2000$$

AEM<sub>POL</sub>: Aircraft Emissions per Pollutant & Mode (TONs)  
 TIM: Time in Mode (min)  
 60: Conversion Factor minutes to hours  
 FC: Fuel Flow Rate (lb/hr)  
 1000: Conversion Factor pounds to 1000pounds  
 EF: Emission Factor (lb/1000lb fuel)  
 NE: Number of Engines  
 LTO: Number of Landing and Take-off Cycles (for all aircraft)  
 2000: Conversion Factor pounds to TONs

**- Aircraft Emissions for LTOs per Year**

$$AE_{LTO} = AEM_{IDLE\_IN} + AEM_{IDLE\_OUT} + AEM_{APPROACH} + AEM_{CLIMBOUT} + AEM_{TAKEOFF}$$

AE<sub>LTO</sub>: Aircraft Emissions (TONs)  
 AEM<sub>IDLE\_IN</sub>: Aircraft Emissions for Idle-In Mode (TONs)  
 AEM<sub>IDLE\_OUT</sub>: Aircraft Emissions for Idle-Out Mode (TONs)  
 AEM<sub>APPROACH</sub>: Aircraft Emissions for Approach Mode (TONs)  
 AEM<sub>CLIMBOUT</sub>: Aircraft Emissions for Climb-Out Mode (TONs)  
 AEM<sub>TAKEOFF</sub>: Aircraft Emissions for Take-Off Mode (TONs)

**- Aircraft Emissions per Mode for TGOs per Year**

$$AEM_{POL} = (TIM / 60) * (FC / 1000) * EF * NE * TGO / 2000$$

AEM<sub>POL</sub>: Aircraft Emissions per Pollutant & Mode (TONs)  
 TIM: Time in Mode (min)

60: Conversion Factor minutes to hours  
 FC: Fuel Flow Rate (lb/hr)  
 1000: Conversion Factor pounds to 1000pounds  
 EF: Emission Factor (lb/1000lb fuel)  
 NE: Number of Engines  
 TGO: Number of Touch-and-Go Cycles (for all aircraft)  
 2000: Conversion Factor pounds to TONs

**- Aircraft Emissions for TGOs per Year**

$$AE_{TGO} = AEM_{APPROACH} + AEM_{CLIMBOUT} + AEM_{TAKEOFF}$$

$AE_{TGO}$ : Aircraft Emissions (TONs)  
 $AEM_{APPROACH}$ : Aircraft Emissions for Approach Mode (TONs)  
 $AEM_{CLIMBOUT}$ : Aircraft Emissions for Climb-Out Mode (TONs)  
 $AEM_{TAKEOFF}$ : Aircraft Emissions for Take-Off Mode (TONs)

**- Aircraft Emissions per Mode for Trim per Year**

$$AEPS_{POL} = (TD / 60) * (FC / 1000) * EF * NE * NA * NTT / 2000$$

$AEPS_{POL}$ : Aircraft Emissions per Pollutant & Power Setting (TONs)  
 TD: Test Duration (min)  
 60: Conversion Factor minutes to hours  
 FC: Fuel Flow Rate (lb/hr)  
 1000: Conversion Factor pounds to 1000pounds  
 EF: Emission Factor (lb/1000lb fuel)  
 NE: Number of Engines  
 NA: Number of Aircraft  
 NTT: Number of Trim Test  
 2000: Conversion Factor pounds to TONs

**- Aircraft Emissions for Trim per Year**

$$AE_{TRIM} = AEPS_{IDLE} + AEPS_{APPROACH} + AEPS_{INTERMEDIATE} + AEPS_{MILITARY} + AEPS_{AFTERBURN}$$

$AE_{TRIM}$ : Aircraft Emissions (TONs)  
 $AEPS_{IDLE}$ : Aircraft Emissions for Idle Power Setting (TONs)  
 $AEPS_{APPROACH}$ : Aircraft Emissions for Approach Power Setting (TONs)  
 $AEPS_{INTERMEDIATE}$ : Aircraft Emissions for Intermediate Power Setting (TONs)  
 $AEPS_{MILITARY}$ : Aircraft Emissions for Military Power Setting (TONs)  
 $AEPS_{AFTERBURN}$ : Aircraft Emissions for After Burner Power Setting (TONs)

**2.4 Auxiliary Power Unit (APU)**

**2.4.1 Auxiliary Power Unit (APU) Assumptions**

- Default Settings Used: Yes

**- Auxiliary Power Unit (APU) (default)**

Number of APU per Aircraft	Operation Hours for Each LTO	Exempt Source?	Designation	Manufacturer
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**2.4.2 Auxiliary Power Unit (APU) Emission Factor(s)**

- Auxiliary Power Unit (APU) Emission Factor (lb/hr)



Designation	Fuel Flow	VOC	SO <sub>x</sub>	NO <sub>x</sub>	CO	PM 10	PM 2.5	CO <sub>2</sub> e
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### 2.4.3 Auxiliary Power Unit (APU) Formula(s)

#### - Auxiliary Power Unit (APU) Emissions per Year

$$APU_{POL} = APU * OH * LTO * EF_{POL} / 2000$$

APU<sub>POL</sub>: Auxiliary Power Unit (APU) Emissions per Pollutant (TONs)

APU: Number of Auxiliary Power Units

OH: Operation Hours for Each LTO (hour)

LTO: Number of LTOs

EF<sub>POL</sub>: Emission Factor for Pollutant (lb/hr)

2000: Conversion Factor pounds to tons

## 2.5 Aerospace Ground Equipment (AGE)

### 2.5.1 Aerospace Ground Equipment (AGE) Assumptions

- Default Settings Used: Yes

- AGE Usage

Number of Annual LTO (Landing and Take-off) cycles for AGE: 600

- Aerospace Ground Equipment (AGE) (default)

Total Number of AGE	Operation Hours for Each LTO	Exempt Source?	AGE Type	Designation
1	0.33	No	Air Compressor	MC-1A - 18.4hp
1	1	No	Bomb Lift	MJ-1B
1	0.33	No	Generator Set	A/M32A-86D
1	0.5	No	Heater	H1
1	0.5	No	Hydraulic Test Stand	MJ-2/TTU-228 - 130hp
1	8	No	Light Cart	NF-2
1	0.33	No	Start Cart	A/M32A-60A

### 2.5.2 Aerospace Ground Equipment (AGE) Emission Factor(s)

- Aerospace Ground Equipment (AGE) Emission Factor (lb/hr)

Designation	Fuel Flow	VOC	SO <sub>x</sub>	NO <sub>x</sub>	CO	PM 10	PM 2.5	CO <sub>2</sub> e
MC-1A - 18.4hp	1.1	0.267	0.008	0.419	0.267	0.071	0.068	24.8
MJ-1B	0.0	3.040	0.219	4.780	3.040	0.800	0.776	141.2
A/M32A-86D	6.5	0.294	0.046	6.102	0.457	0.091	0.089	147.0
H1	0.4	0.100	0.011	0.160	0.180	0.006	0.006	8.9
MJ-2/TTU-228 - 130hp	7.4	0.195	0.053	3.396	0.794	0.089	0.086	168.8
NF-2	0.0	0.010	0.043	0.110	0.080	0.010	0.010	22.1
A/M32A-60A	0.0	0.270	0.306	1.820	5.480	0.211	0.205	221.1

### 2.5.3 Aerospace Ground Equipment (AGE) Formula(s)

- Aerospace Ground Equipment (AGE) Emissions per Year

$$AGE_{POL} = AGE * OH * LTO * EF_{POL} / 2000$$

AGE<sub>POL</sub>: Aerospace Ground Equipment (AGE) Emissions per Pollutant (TONs)  
 AGE: Total Number of Aerospace Ground Equipment  
 OH: Operation Hours for Each LTO (hour)  
 LTO: Number of LTOs  
 EF<sub>POL</sub>: Emission Factor for Pollutant (lb/hr)  
 2000: Conversion Factor pounds to tons

### 3. Personnel

#### 3.1 General Information & Timeline Assumptions

- Add or Remove Activity from Baseline?      Add

- Activity Location

County: Okaloosa

Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: Additional Personnel

- Activity Description:

ADAIR Contractor Personnel Commute from off-base (19 maintenance personnel & 4 pilots).

- Activity Start Date

Start Month: 1

Start Year: 2023

- Activity End Date

Indefinite: No

End Month: 12

End Year: 2032

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	0.515481
SO <sub>x</sub>	0.003463
NO <sub>x</sub>	0.415862
CO	5.908088
PM 10	0.009210

Pollutant	Total Emissions (TONs)
PM 2.5	0.007842
Pb	0.000000
NH <sub>3</sub>	0.031804
CO <sub>2e</sub>	530.2

#### 3.2 Personnel Assumptions

- Number of Personnel

Active Duty Personnel: 0

Civilian Personnel: 0

Support Contractor Personnel: 23

Air National Guard (ANG) Personnel: 0

Reserve Personnel: 0

- Default Settings Used: Yes

- Average Personnel Round Trip Commute (mile): 20 (default)

- Personnel Work Schedule

Active Duty Personnel: 5 Days Per Week (default)

**Civilian Personnel:** 5 Days Per Week (default)  
**Support Contractor Personnel:** 5 Days Per Week (default)  
**Air National Guard (ANG) Personnel:** 4 Days Per Week (default)  
**Reserve Personnel:** 4 Days Per Month (default)

### 3.3 Personnel On Road Vehicle Mixture

#### - On Road Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	37.55	60.32	0	0.03	0.2	0	1.9
GOVs	54.49	37.73	4.67	0	0	3.11	0

### 3.4 Personnel Emission Factor(s)

#### - On Road Vehicle Emission Factors (grams/mile)

	VOC	SO <sub>x</sub>	NO <sub>x</sub>	CO	PM 10	PM 2.5	Pb	NH <sub>3</sub>	CO <sub>2e</sub>
LDGV	000.282	000.002	000.207	003.392	000.006	000.005		000.023	00341.791
LDGT	000.376	000.003	000.373	004.889	000.007	000.006		000.024	00439.705
HDGV	000.832	000.005	000.964	016.217	000.016	000.014		000.046	00814.851
LDDV	000.084	000.003	000.127	002.822	000.004	000.004		000.008	00334.379
LDDT	000.227	000.004	000.365	004.850	000.007	000.006		000.008	00473.628
HDDV	000.423	000.014	004.175	001.653	000.176	000.162		000.028	01559.331
MC	003.040	000.003	000.626	013.017	000.026	000.023		000.052	00392.775

### 3.5 Personnel Formula(s)

#### - Personnel Vehicle Miles Travel for Work Days per Year

$$VMT_P = NP * WD * AC$$

VMT<sub>P</sub>: Personnel Vehicle Miles Travel (miles/year)  
NP: Number of Personnel  
WD: Work Days per Year  
AC: Average Commute (miles)

#### - Total Vehicle Miles Travel per Year

$$VMT_{Total} = VMT_{AD} + VMT_C + VMT_{SC} + VMT_{ANG} + VMT_{AFRC}$$

VMT<sub>Total</sub>: Total Vehicle Miles Travel (miles)  
VMT<sub>AD</sub>: Active Duty Personnel Vehicle Miles Travel (miles)  
VMT<sub>C</sub>: Civilian Personnel Vehicle Miles Travel (miles)  
VMT<sub>SC</sub>: Support Contractor Personnel Vehicle Miles Travel (miles)  
VMT<sub>ANG</sub>: Air National Guard Personnel Vehicle Miles Travel (miles)  
VMT<sub>AFRC</sub>: Reserve Personnel Vehicle Miles Travel (miles)

#### - Vehicle Emissions per Year

$$V_{POL} = (VMT_{Total} * 0.002205 * EF_{POL} * VM) / 2000$$

V<sub>POL</sub>: Vehicle Emissions (TONs)  
VMT<sub>Total</sub>: Total Vehicle Miles Travel (miles)  
0.002205: Conversion Factor grams to pounds  
EF<sub>POL</sub>: Emission Factor for Pollutant (grams/mile)  
VM: Personnel On Road Vehicle Mixture (%)  
2000: Conversion Factor pounds to tons

#### 4. Degreaser

##### 4.1 General Information & Timeline Assumptions

- Add or Remove Activity from Baseline?      Add
- Activity Location
  - County: Okaloosa
  - Regulatory Area(s): NOT IN A REGULATORY AREA
- Activity Title: Minor Parts Cleaning - ADAIR Contractor Aircraft
- Activity Description:
  - Small Parts Cleaning (assumed 2 gal solvent/year to be consumed). Major repairs and maintenance is planned to be conducted off-site.
- Activity Start Date
  - Start Month: 1
  - Start Year: 2023
- Activity End Date
  - Indefinite: No
  - End Month: 12
  - End Year: 2032

##### - Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	0.065130
SO <sub>x</sub>	0.000000
NO <sub>x</sub>	0.000000
CO	0.000000
PM 10	0.000000

Pollutant	Total Emissions (TONs)
PM 2.5	0.000000
Pb	0.000000
NH <sub>3</sub>	0.000000
CO <sub>2e</sub>	0.0

##### 4.2 Degreaser Assumptions

- Degreaser
  - Net solvent usage (total less recycle) (gallons/year): 2
- Default Settings Used: Yes
- Degreaser Consumption
  - Solvent used: Mineral Spirits CAS#64475-85-0 (default)
  - Specific gravity of solvent: 0.78 (default)
  - Solvent VOC content (%): 100 (default)
  - Efficiency of control device (%): 0 (default)

##### 4.3 Degreaser Formula(s)

##### - Degreaser Emissions per Year

$$DE_{VOC} = (VOC / 100) * NS * SG * 8.35 * (1 - (CD / 100)) / 2000$$

DE<sub>VOC</sub>: Degreaser VOC Emissions (TONs per Year)

VOC: Solvent VOC content (%)

(VOC / 100): Conversion Factor percent to decimal



NS: Net solvent usage (total less recycle) (gallons/year)  
 SG: Specific gravity of solvent  
 8.35: Conversion Factor the density of water  
 CD: Efficiency of control device (%)  
 (1 - (CD / 100)): Conversion Factor percent to decimal (Not effected by control device)  
 2000: Conversion Factor pounds to tons

## 5. Tanks

### 5.1 General Information & Timeline Assumptions

- Add or Remove Activity from Baseline?      Add

- Activity Location

County: Okaloosa  
 Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: Jet A Storage (Tank ID/Bldg Number: 1076 / 762)

- Activity Description:

Accounts for additional fuel throughout due to Contractor ADAIR sorties. Fuel use estimated based on number of sorties and time in mode. Includes fuel for use in trim tests, SUAs and in the vicinity of the airfield.

- Activity Start Date

Start Month: 1  
 Start Year: 2023

- Activity End Date

Indefinite: No  
 End Month: 12  
 End Year: 2032

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	2.201994
SO <sub>x</sub>	0.000000
NO <sub>x</sub>	0.000000
CO	0.000000
PM 10	0.000000

Pollutant	Total Emissions (TONs)
PM 2.5	0.000000
Pb	0.000000
NH <sub>3</sub>	0.000000
CO <sub>2</sub> e	0.0

### 5.2 Tanks Assumptions

- Chemical

Chemical Name: Jet kerosene (JP-5, JP-8 or Jet-A)  
 Chemical Category: Petroleum Distillates  
 Chemical Density: 7  
 Vapor Molecular Weight (lb/lb-mole): 130  
 Stock Vapor Density (lb/ft<sup>3</sup>): 0.000170775135930213  
 Vapor Pressure: 0.00725  
 Vapor Space Expansion Factor (dimensionless): 0.068

- Tank

Type of Tank:	Vertical Tank
Tank Height (ft):	40
Tank Diameter (ft):	70
Annual Net Throughput (gallon/year):	186591

### 5.3 Tank Formula(s)

#### - Vapor Space Volume

$$VSV = (PI / 4) * D^2 * H / 2$$

VSV: Vapor Space Volume (ft<sup>3</sup>)

PI: PI Math Constant

D<sup>2</sup>: Tank Diameter (ft)

H: Tank Height (ft)

2: Conversion Factor (Vapor Space Volume is assumed to be one-half of the tank volume)

#### - Vented Vapor Saturation Factor

$$VVSF = 1 / (1 + (0.053 * VP * H / 2))$$

VVSF: Vented Vapor Saturation Factor (dimensionless)

0.053: Constant

VP: Vapor Pressure (psia)

H: Tank Height (ft)

#### - Standing Storage Loss per Year

$$SSL_{voc} = 365 * VSV * SVD * VSEF * VVSF / 2000$$

SSL<sub>voc</sub>: Standing Storage Loss Emissions (TONs)

365: Number of Daily Events in a Year (Constant)

VSV: Vapor Space Volume (ft<sup>3</sup>)

SVD: Stock Vapor Density (lb/ft<sup>3</sup>)

VSEF: Vapor Space Expansion Factor (dimensionless)

VVSF: Vented Vapor Saturation Factor (dimensionless)

2000: Conversion Factor pounds to tons

#### - Number of Turnovers per Year

$$NT = (7.48 * ANT) / ((PI / 4.0) * D * H)$$

NT: Number of Turnovers per Year

7.48: Constant

ANT: Annual Net Throughput

PI: PI Math Constant

D<sup>2</sup>: Tank Diameter (ft)

H: Tank Height (ft)

#### - Working Loss Turnover (Saturation) Factor per Year

$$WLSF = (18 + NT) / (6 * NT)$$

WLSF: Working Loss Turnover (Saturation) Factor per Year

18: Constant

NT: Number of Turnovers per Year

6: Constant

#### - Working Loss per Year

$$WL_{voc} = 0.0010 * VMW * VP * ANT * WLSF / 2000$$

0.0010: Constant  
 VMW: Vapor Molecular Weight (lb/lb-mole)  
 VP: Vapor Pressure (psia)  
 ANT: Annual Net Throughput  
 WLSF: Working Loss Turnover (Saturation) Factor  
 2000: Conversion Factor pounds to tons

## 6. Tanks

### 6.1 General Information & Timeline Assumptions

- Add or Remove Activity from Baseline? Add

- Activity Location

County: Okaloosa  
 Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: Jet A Storage (Tank ID/Bldg Number: 1091 / 1302)

- Activity Description:

Accounts for additional fuel throughout due to Contractor ADAIR sorties. Fuel use estimated based on number of sorties and time in mode. Includes fuel for use in trim tests, SUAs and in the vicinity of the airfield.

- Activity Start Date

Start Month: 1  
 Start Year: 2023

- Activity End Date

Indefinite: No  
 End Month: 12  
 End Year: 2032

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	2.201904
SO <sub>x</sub>	0.000000
NO <sub>x</sub>	0.000000
CO	0.000000
PM 10	0.000000

Pollutant	Total Emissions (TONs)
PM 2.5	0.000000
Pb	0.000000
NH <sub>3</sub>	0.000000
CO <sub>2e</sub>	0.0

### 6.2 Tanks Assumptions

- Chemical

Chemical Name: Jet kerosene (JP-5, JP-8 or Jet-A)  
 Chemical Category: Petroleum Distillates  
 Chemical Density: 7  
 Vapor Molecular Weight (lb/lb-mole): 130  
 Stock Vapor Density (lb/ft<sup>3</sup>): 0.000170775135930213  
 Vapor Pressure: 0.00725  
 Vapor Space Expansion Factor (dimensionless): 0.068

**- Tank**

<b>Type of Tank:</b>	Vertical Tank
<b>Tank Height (ft):</b>	40
<b>Tank Diameter (ft):</b>	70
<b>Annual Net Throughput (gallon/year):</b>	186493

**6.3 Tank Formula(s)**

**- Vapor Space Volume**

$$VSV = (PI / 4) * D^2 * H / 2$$

VSV: Vapor Space Volume (ft<sup>3</sup>)

PI: PI Math Constant

D<sup>2</sup>: Tank Diameter (ft)

H: Tank Height (ft)

2: Conversion Factor (Vapor Space Volume is assumed to be one-half of the tank volume)

**- Vented Vapor Saturation Factor**

$$VVSF = 1 / (1 + (0.053 * VP * H / 2))$$

VVSF: Vented Vapor Saturation Factor (dimensionless)

0.053: Constant

VP: Vapor Pressure (psia)

H: Tank Height (ft)

**- Standing Storage Loss per Year**

$$SSL_{voc} = 365 * VSV * SVD * VSEF * VVSF / 2000$$

SSL<sub>voc</sub>: Standing Storage Loss Emissions (TONs)

365: Number of Daily Events in a Year (Constant)

VSV: Vapor Space Volume (ft<sup>3</sup>)

SVD: Stock Vapor Density (lb/ft<sup>3</sup>)

VSEF: Vapor Space Expansion Factor (dimensionless)

VVSF: Vented Vapor Saturation Factor (dimensionless)

2000: Conversion Factor pounds to tons

**- Number of Turnovers per Year**

$$NT = (7.48 * ANT) / ((PI / 4.0) * D * H)$$

NT: Number of Turnovers per Year

7.48: Constant

ANT: Annual Net Throughput

PI: PI Math Constant

D<sup>2</sup>: Tank Diameter (ft)

H: Tank Height (ft)

**- Working Loss Turnover (Saturation) Factor per Year**

$$WLSF = (18 + NT) / (6 * NT)$$

WLSF: Working Loss Turnover (Saturation) Factor per Year

18: Constant

NT: Number of Turnovers per Year

6: Constant

**- Working Loss per Year**



$$WL_{VOC} = 0.0010 * VMW * VP * ANT * WLSF / 2000$$

0.0010: Constant

VMW: Vapor Molecular Weight (lb/lb-mole)

VP: Vapor Pressure (psia)

ANT: Annual Net Throughput

WLSF: Working Loss Turnover (Saturation) Factor

2000: Conversion Factor pounds to tons

## 7. Tanks

### 7.1 General Information & Timeline Assumptions

- Add or Remove Activity from Baseline?      Add

- Activity Location

County: Okaloosa

Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: Jet A Storage (Tank ID/Bldg Number: 1092 / 1302)

- Activity Description:

Accounts for additional fuel throughout due to Contractor ADAIR sorties. Fuel use estimated based on number of sorties and time in mode. Includes fuel for use in trim tests, SUAs and in the vicinity of the airfield.

- Activity Start Date

Start Month: 1

Start Year: 2023

- Activity End Date

Indefinite: No

End Month: 12

End Year: 2032

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	2.201904
SO <sub>x</sub>	0.000000
NO <sub>x</sub>	0.000000
CO	0.000000
PM 10	0.000000

Pollutant	Total Emissions (TONs)
PM 2.5	0.000000
Pb	0.000000
NH <sub>3</sub>	0.000000
CO <sub>2</sub> e	0.0

### 7.2 Tanks Assumptions

- Chemical

Chemical Name: Jet kerosene (JP-5, JP-8 or Jet-A)

Chemical Category: Petroleum Distillates

Chemical Density: 7

Vapor Molecular Weight (lb/lb-mole): 130

Stock Vapor Density (lb/ft<sup>3</sup>): 0.000170775135930213

Vapor Pressure: 0.00725

Vapor Space Expansion Factor (dimensionless): 0.068

**- Tank**

Type of Tank:	Vertical Tank
Tank Height (ft):	40
Tank Diameter (ft):	70
Annual Net Throughput (gallon/year):	186493

**7.3 Tank Formula(s)**

**- Vapor Space Volume**

$$VSV = (PI / 4) * D^2 * H / 2$$

VSV: Vapor Space Volume (ft<sup>3</sup>)

PI: PI Math Constant

D<sup>2</sup>: Tank Diameter (ft)

H: Tank Height (ft)

2: Conversion Factor (Vapor Space Volume is assumed to be one-half of the tank volume)

**- Vented Vapor Saturation Factor**

$$VVSF = 1 / (1 + (0.053 * VP * H / 2))$$

VVSF: Vented Vapor Saturation Factor (dimensionless)

0.053: Constant

VP: Vapor Pressure (psia)

H: Tank Height (ft)

**- Standing Storage Loss per Year**

$$SSL_{voc} = 365 * VSV * SVD * VSEF * VVSF / 2000$$

SSL<sub>voc</sub>: Standing Storage Loss Emissions (TONs)

365: Number of Daily Events in a Year (Constant)

VSV: Vapor Space Volume (ft<sup>3</sup>)

SVD: Stock Vapor Density (lb/ft<sup>3</sup>)

VSEF: Vapor Space Expansion Factor (dimensionless)

VVSF: Vented Vapor Saturation Factor (dimensionless)

2000: Conversion Factor pounds to tons

**- Number of Turnovers per Year**

$$NT = (7.48 * ANT) / ((PI / 4.0) * D * H)$$

NT: Number of Turnovers per Year

7.48: Constant

ANT: Annual Net Throughput

PI: PI Math Constant

D<sup>2</sup>: Tank Diameter (ft)

H: Tank Height (ft)

**- Working Loss Turnover (Saturation) Factor per Year**

$$WLSF = (18 + NT) / (6 * NT)$$

WLSF: Working Loss Turnover (Saturation) Factor per Year

18: Constant

NT: Number of Turnovers per Year

6: Constant

**- Working Loss per Year**

$$WL_{VOC} = 0.0010 * VMW * VP * ANT * WLSF / 2000$$

0.0010: Constant

VMW: Vapor Molecular Weight (lb/lb-mole)

VP: Vapor Pressure (psia)

ANT: Annual Net Throughput

WLSF: Working Loss Turnover (Saturation) Factor

2000: Conversion Factor pounds to tons

## 8. Tanks

### 8.1 General Information & Timeline Assumptions

**- Add or Remove Activity from Baseline?** Add

**- Activity Location**

**County:** Okaloosa

**Regulatory Area(s):** NOT IN A REGULATORY AREA

**- Activity Title:** Jet A Storage (Tank ID/Bldg Number: 1080 / 762)

**- Activity Description:**

Accounts for additional fuel throughout due to Contractor ADAIR sorties. Fuel use estimated based on number of sorties and time in mode. Includes fuel for use in trim tests, SUAs and in the vicinity of the airfield.

**- Activity Start Date**

**Start Month:** 1

**Start Year:** 2023

**- Activity End Date**

**Indefinite:** No

**End Month:** 12

**End Year:** 2032

**- Activity Emissions:**

Pollutant	Total Emissions (TONs)
VOC	1.619690
SO <sub>x</sub>	0.000000
NO <sub>x</sub>	0.000000
CO	0.000000
PM 10	0.000000

Pollutant	Total Emissions (TONs)
PM 2.5	0.000000
Pb	0.000000
NH <sub>3</sub>	0.000000
CO <sub>2e</sub>	0.0

### 8.2 Tanks Assumptions

**- Chemical**

**Chemical Name:** Jet kerosene (JP-5, JP-8 or Jet-A)

**Chemical Category:** Petroleum Distillates

**Chemical Density:** 7

**Vapor Molecular Weight (lb/lb-mole):** 130

**Stock Vapor Density (lb/ft<sup>3</sup>):** 0.000170775135930213

**Vapor Pressure:** 0.00725

**Vapor Space Expansion Factor (dimensionless):** 0.068

**- Tank**

<b>Type of Tank:</b>	Horizontal Tank
<b>Tank Length (ft):</b>	40
<b>Tank Diameter (ft):</b>	60
<b>Annual Net Throughput (gallon/year):</b>	138501

**8.3 Tank Formula(s)**

**- Vapor Space Volume**

$$VSV = (PI / 4) * D^2 * L / 2$$

VSV: Vapor Space Volume (ft<sup>3</sup>)

PI: PI Math Constant

D<sup>2</sup>: Tank Diameter (ft)

L: Tank Length (ft)

2: Conversion Factor (Vapor Space Volume is assumed to be one-half of the tank volume)

**- Vented Vapor Saturation Factor**

$$VVSF = 1 / (1 + (0.053 * VP * L / 2))$$

VVSF: Vented Vapor Saturation Factor (dimensionless)

0.053: Constant

VP: Vapor Pressure (psia)

L: Tank Length (ft)

**- Standing Storage Loss per Year**

$$SSL_{voc} = 365 * VSV * SVD * VSEF * VVSF / 2000$$

SSL<sub>voc</sub>: Standing Storage Loss Emissions (TONs)

365: Number of Daily Events in a Year (Constant)

VSV: Vapor Space Volume (ft<sup>3</sup>)

SVD: Stock Vapor Density (lb/ft<sup>3</sup>)

VSEF: Vapor Space Expansion Factor (dimensionless)

VVSF: Vented Vapor Saturation Factor (dimensionless)

2000: Conversion Factor pounds to tons

**- Number of Turnovers per Year**

$$NT = (7.48 * ANT) / ((PI / 4.0) * D * L)$$

NT: Number of Turnovers per Year

7.48: Constant

ANT: Annual Net Throughput

PI: PI Math Constant

D<sup>2</sup>: Tank Diameter (ft)

L: Tank Length (ft)

**- Working Loss Turnover (Saturation) Factor per Year**

$$WLSF = (18 + NT) / (6 * NT)$$

WLSF: Working Loss Turnover (Saturation) Factor per Year

18: Constant

NT: Number of Turnovers per Year

6: Constant



**- Working Loss per Year**

$$WL_{VOC} = 0.0010 * VMW * VP * ANT * WLSF / 2000$$

0.0010: Constant

VMW: Vapor Molecular Weight (lb/lb-mole)

VP: Vapor Pressure (psia)

ANT: Annual Net Throughput

WLSF: Working Loss Turnover (Saturation) Factor

2000: Conversion Factor pounds to tons

## 9. Tanks

### 9.1 General Information & Timeline Assumptions

**- Add or Remove Activity from Baseline?** Add

**- Activity Location**

County: Okaloosa

Regulatory Area(s): NOT IN A REGULATORY AREA

**- Activity Title:** Jet A Storage (Tank ID/Bldg Number: 1078/762)

**- Activity Description:**

Accounts for additional fuel throughout due to Contractor ADAIR sorties. Fuel use estimated based on number of sorties and time in mode. Includes fuel for use in trim tests, SUAs and in the vicinity of the airfield.

**- Activity Start Date**

Start Month: 1

Start Year: 2023

**- Activity End Date**

Indefinite: No

End Month: 12

End Year: 2032

**- Activity Emissions:**

Pollutant	Total Emissions (TONs)
VOC	1.619630
SO <sub>x</sub>	0.000000
NO <sub>x</sub>	0.000000
CO	0.000000
PM 10	0.000000

Pollutant	Total Emissions (TONs)
PM 2.5	0.000000
Pb	0.000000
NH <sub>3</sub>	0.000000
CO <sub>2e</sub>	0.0

### 9.2 Tanks Assumptions

**- Chemical**

Chemical Name:

Jet kerosene (JP-5, JP-8 or Jet-A)

Chemical Category:

Petroleum Distillates

Chemical Density:

7

Vapor Molecular Weight (lb/lb-mole):

130

Stock Vapor Density (lb/ft<sup>3</sup>):

0.000170775135930213

Vapor Pressure: 0.00725  
Vapor Space Expansion Factor (dimensionless): 0.068

**- Tank**

Type of Tank: Vertical Tank  
Tank Height (ft): 40  
Tank Diameter (ft): 60  
Annual Net Throughput (gallon/year): 138435

**9.3 Tank Formula(s)**

**- Vapor Space Volume**

$$VSV = (PI / 4) * D^2 * H / 2$$

VSV: Vapor Space Volume (ft<sup>3</sup>)

PI: PI Math Constant

D<sup>2</sup>: Tank Diameter (ft)

H: Tank Height (ft)

2: Conversion Factor (Vapor Space Volume is assumed to be one-half of the tank volume)

**- Vented Vapor Saturation Factor**

$$VVSF = 1 / (1 + (0.053 * VP * H / 2))$$

VVSF: Vented Vapor Saturation Factor (dimensionless)

0.053: Constant

VP: Vapor Pressure (psia)

H: Tank Height (ft)

**- Standing Storage Loss per Year**

$$SSL_{voc} = 365 * VSV * SVD * VSEF * VVSF / 2000$$

SSL<sub>voc</sub>: Standing Storage Loss Emissions (TONs)

365: Number of Daily Events in a Year (Constant)

VSV: Vapor Space Volume (ft<sup>3</sup>)

SVD: Stock Vapor Density (lb/ft<sup>3</sup>)

VSEF: Vapor Space Expansion Factor (dimensionless)

VVSF: Vented Vapor Saturation Factor (dimensionless)

2000: Conversion Factor pounds to tons

**- Number of Turnovers per Year**

$$NT = (7.48 * ANT) / ((PI / 4.0) * D * H)$$

NT: Number of Turnovers per Year

7.48: Constant

ANT: Annual Net Throughput

PI: PI Math Constant

D<sup>2</sup>: Tank Diameter (ft)

H: Tank Height (ft)

**- Working Loss Turnover (Saturation) Factor per Year**

$$WLSF = (18 + NT) / (6 * NT)$$

WLSF: Working Loss Turnover (Saturation) Factor per Year

18: Constant

NT: Number of Turnovers per Year

6: Constant

**- Working Loss per Year**

$$WL_{VOC} = 0.0010 * VMW * VP * ANT * WLSF / 2000$$

0.0010: Constant

VMW: Vapor Molecular Weight (lb/lb-mole)

VP: Vapor Pressure (psia)

ANT: Annual Net Throughput

WLSF: Working Loss Turnover (Saturation) Factor

2000: Conversion Factor pounds to tons

## 10. Tanks

### 10.1 General Information & Timeline Assumptions

**- Add or Remove Activity from Baseline?** Add

**- Activity Location**

County: Okaloosa

Regulatory Area(s): NOT IN A REGULATORY AREA

**- Activity Title:** Jet A Storage (Tank ID/Bldg. Number: 2596 / 92)

**- Activity Description:**

Accounts for additional fuel throughout due to Contractor ADAIR sorties. Fuel use estimated based on number of sorties and time in mode. Includes fuel for use in trim tests, SUAs and in the vicinity of the airfield.

**- Activity Start Date**

Start Month: 1

Start Year: 2023

**- Activity End Date**

Indefinite: No

End Month: 12

End Year: 2032

**- Activity Emissions:**

Pollutant	Total Emissions (TONs)
VOC	0.530886
SO <sub>x</sub>	0.000000
NO <sub>x</sub>	0.000000
CO	0.000000
PM 10	0.000000

Pollutant	Total Emissions (TONs)
PM 2.5	0.000000
Pb	0.000000
NH <sub>3</sub>	0.000000
CO <sub>2e</sub>	0.0

### 10.2 Tanks Assumptions

**- Chemical**

Chemical Name:

Jet kerosene (JP-5, JP-8 or Jet-A)

Chemical Category:

Petroleum Distillates

Chemical Density:

7

Vapor Molecular Weight (lb/lb-mole):

130

Stock Vapor Density (lb/ft<sup>3</sup>): 0.000170775135930213  
Vapor Pressure: 0.00725  
Vapor Space Expansion Factor (dimensionless): 0.068

**- Tank**

Type of Tank: Vertical Tank  
Tank Height (ft): 30  
Tank Diameter (ft): 40  
Annual Net Throughput (gallon/year): 34420

**10.3 Tank Formula(s)**

**- Vapor Space Volume**

$$\text{VSV} = (\text{PI} / 4) * \text{D}^2 * \text{H} / 2$$

VSV: Vapor Space Volume (ft<sup>3</sup>)

PI: PI Math Constant

D<sup>2</sup>: Tank Diameter (ft)

H: Tank Height (ft)

2: Conversion Factor (Vapor Space Volume is assumed to be one-half of the tank volume)

**- Vented Vapor Saturation Factor**

$$\text{VVSF} = 1 / (1 + (0.053 * \text{VP} * \text{H} / 2))$$

VVSF: Vented Vapor Saturation Factor (dimensionless)

0.053: Constant

VP: Vapor Pressure (psia)

H: Tank Height (ft)

**- Standing Storage Loss per Year**

$$\text{SSL}_{\text{voc}} = 365 * \text{VSV} * \text{SVD} * \text{VSEF} * \text{VVSF} / 2000$$

SSL<sub>voc</sub>: Standing Storage Loss Emissions (TONs)

365: Number of Daily Events in a Year (Constant)

VSV: Vapor Space Volume (ft<sup>3</sup>)

SVD: Stock Vapor Density (lb/ft<sup>3</sup>)

VSEF: Vapor Space Expansion Factor (dimensionless)

VVSF: Vented Vapor Saturation Factor (dimensionless)

2000: Conversion Factor pounds to tons

**- Number of Turnovers per Year**

$$\text{NT} = (7.48 * \text{ANT}) / ((\text{PI} / 4.0) * \text{D} * \text{H})$$

NT: Number of Turnovers per Year

7.48: Constant

ANT: Annual Net Throughput

PI: PI Math Constant

D<sup>2</sup>: Tank Diameter (ft)

H: Tank Height (ft)

**- Working Loss Turnover (Saturation) Factor per Year**

$$\text{WLSF} = (18 + \text{NT}) / (6 * \text{NT})$$

WLSF: Working Loss Turnover (Saturation) Factor per Year

18: Constant



NT: Number of Turnovers per Year  
6: Constant

**- Working Loss per Year**

$$WL_{VOC} = 0.0010 * VMW * VP * ANT * WLSF / 2000$$

0.0010: Constant  
VMW: Vapor Molecular Weight (lb/lb-mole)  
VP: Vapor Pressure (psia)  
ANT: Annual Net Throughput  
WLSF: Working Loss Turnover (Saturation) Factor  
2000: Conversion Factor pounds to tons

## 11. Tanks

### 11.1 General Information & Timeline Assumptions

**- Add or Remove Activity from Baseline?** Add

**- Activity Location**

**County:** Okaloosa  
**Regulatory Area(s):** NOT IN A REGULATORY AREA

**- Activity Title:** Jet A Storage (Tank ID/Bldg. Number: 2690 / 945)

**- Activity Description:**

Accounts for additional fuel throughout due to Contractor ADAIR sorties. Fuel use estimated based on number of sorties and time in mode. Includes fuel for use in trim tests, SUAs and in the vicinity of the airfield.

**- Activity Start Date**

**Start Month:** 1  
**Start Year:** 2023

**- Activity End Date**

**Indefinite:** No  
**End Month:** 12  
**End Year:** 2032

**- Activity Emissions:**

Pollutant	Total Emissions (TONs)
VOC	0.530886
SO <sub>x</sub>	0.000000
NO <sub>x</sub>	0.000000
CO	0.000000
PM 10	0.000000

Pollutant	Total Emissions (TONs)
PM 2.5	0.000000
Pb	0.000000
NH <sub>3</sub>	0.000000
CO <sub>2e</sub>	0.0

### 11.2 Tanks Assumptions

**- Chemical**

**Chemical Name:** Jet kerosene (JP-5, JP-8 or Jet-A)  
**Chemical Category:** Petroleum Distillates  
**Chemical Density:** 7

Vapor Molecular Weight (lb/lb-mole): 130  
Stock Vapor Density (lb/ft<sup>3</sup>): 0.000170775135930213  
Vapor Pressure: 0.00725  
Vapor Space Expansion Factor (dimensionless): 0.068

**- Tank**

Type of Tank: Vertical Tank  
Tank Height (ft): 30  
Tank Diameter (ft): 40  
Annual Net Throughput (gallon/year): 34420

**11.3 Tank Formula(s)**

**- Vapor Space Volume**

$$\text{VSV} = (\text{PI} / 4) * \text{D}^2 * \text{H} / 2$$

VSV: Vapor Space Volume (ft<sup>3</sup>)

PI: PI Math Constant

D<sup>2</sup>: Tank Diameter (ft)

H: Tank Height (ft)

2: Conversion Factor (Vapor Space Volume is assumed to be one-half of the tank volume)

**- Vented Vapor Saturation Factor**

$$\text{VVSF} = 1 / (1 + (0.053 * \text{VP} * \text{H} / 2))$$

VVSF: Vented Vapor Saturation Factor (dimensionless)

0.053: Constant

VP: Vapor Pressure (psia)

H: Tank Height (ft)

**- Standing Storage Loss per Year**

$$\text{SSL}_{\text{voc}} = 365 * \text{VSV} * \text{SVD} * \text{VSEF} * \text{VVSF} / 2000$$

SSL<sub>voc</sub>: Standing Storage Loss Emissions (TONs)

365: Number of Daily Events in a Year (Constant)

VSV: Vapor Space Volume (ft<sup>3</sup>)

SVD: Stock Vapor Density (lb/ft<sup>3</sup>)

VSEF: Vapor Space Expansion Factor (dimensionless)

VVSF: Vented Vapor Saturation Factor (dimensionless)

2000: Conversion Factor pounds to tons

**- Number of Turnovers per Year**

$$\text{NT} = (7.48 * \text{ANT}) / ((\text{PI} / 4.0) * \text{D} * \text{H})$$

NT: Number of Turnovers per Year

7.48: Constant

ANT: Annual Net Throughput

PI: PI Math Constant

D<sup>2</sup>: Tank Diameter (ft)

H: Tank Height (ft)

**- Working Loss Turnover (Saturation) Factor per Year**

$$\text{WLSF} = (18 + \text{NT}) / (6 * \text{NT})$$

WLSF: Working Loss Turnover (Saturation) Factor per Year

18: Constant  
NT: Number of Turnovers per Year  
6: Constant

**- Working Loss per Year**

$$WL_{VOC} = 0.0010 * VMW * VP * ANT * WLSF / 2000$$

0.0010: Constant  
VMW: Vapor Molecular Weight (lb/lb-mole)  
VP: Vapor Pressure (psia)  
ANT: Annual Net Throughput  
WLSF: Working Loss Turnover (Saturation) Factor  
2000: Conversion Factor pounds to tons

## 12. Tanks

### 12.1 General Information & Timeline Assumptions

**- Add or Remove Activity from Baseline?** Add

**- Activity Location**

**County:** Okaloosa  
**Regulatory Area(s):** NOT IN A REGULATORY AREA

**- Activity Title:** Jet A Storage (Tank ID/Bldg. Number: 1224 / 3206)

**- Activity Description:**

Accounts for additional fuel throughout due to Contractor ADAIR sorties. Fuel use estimated based on number of sorties and time in mode. Includes fuel for use in trim tests, SUAs and in the vicinity of the airfield.

**- Activity Start Date**

**Start Month:** 1  
**Start Year:** 2023

**- Activity End Date**

**Indefinite:** No  
**End Month:** 12  
**End Year:** 2032

**- Activity Emissions:**

Pollutant	Total Emissions (TONs)
VOC	0.125196
SO <sub>x</sub>	0.000000
NO <sub>x</sub>	0.000000
CO	0.000000
PM 10	0.000000

Pollutant	Total Emissions (TONs)
PM 2.5	0.000000
Pb	0.000000
NH <sub>3</sub>	0.000000
CO <sub>2e</sub>	0.0

### 12.2 Tanks Assumptions

**- Chemical**

**Chemical Name:** Jet kerosene (JP-5, JP-8 or Jet-A)  
**Chemical Category:** Petroleum Distillates

Chemical Density: 7  
Vapor Molecular Weight (lb/lb-mole): 130  
Stock Vapor Density (lb/ft<sup>3</sup>): 0.000170775135930213  
Vapor Pressure: 0.00725  
Vapor Space Expansion Factor (dimensionless): 0.068

**- Tank**

Type of Tank: Vertical Tank  
Tank Height (ft): 25  
Tank Diameter (ft): 21  
Annual Net Throughput (gallon/year): 10834

**12.3 Tank Formula(s)**

**- Vapor Space Volume**

$$\text{VSV} = (\text{PI} / 4) * \text{D}^2 * \text{H} / 2$$

VSV: Vapor Space Volume (ft<sup>3</sup>)

PI: PI Math Constant

D<sup>2</sup>: Tank Diameter (ft)

H: Tank Height (ft)

2: Conversion Factor (Vapor Space Volume is assumed to be one-half of the tank volume)

**- Vented Vapor Saturation Factor**

$$\text{VVSF} = 1 / (1 + (0.053 * \text{VP} * \text{H} / 2))$$

VVSF: Vented Vapor Saturation Factor (dimensionless)

0.053: Constant

VP: Vapor Pressure (psia)

H: Tank Height (ft)

**- Standing Storage Loss per Year**

$$\text{SSL}_{\text{voc}} = 365 * \text{VSV} * \text{SVD} * \text{VSEF} * \text{VVSF} / 2000$$

SSL<sub>voc</sub>: Standing Storage Loss Emissions (TONs)

365: Number of Daily Events in a Year (Constant)

VSV: Vapor Space Volume (ft<sup>3</sup>)

SVD: Stock Vapor Density (lb/ft<sup>3</sup>)

VSEF: Vapor Space Expansion Factor (dimensionless)

VVSF: Vented Vapor Saturation Factor (dimensionless)

2000: Conversion Factor pounds to tons

**- Number of Turnovers per Year**

$$\text{NT} = (7.48 * \text{ANT}) / ((\text{PI} / 4.0) * \text{D} * \text{H})$$

NT: Number of Turnovers per Year

7.48: Constant

ANT: Annual Net Throughput

PI: PI Math Constant

D<sup>2</sup>: Tank Diameter (ft)

H: Tank Height (ft)

**- Working Loss Turnover (Saturation) Factor per Year**

$$\text{WLSF} = (18 + \text{NT}) / (6 * \text{NT})$$



WLSF: Working Loss Turnover (Saturation) Factor per Year  
 18: Constant  
 NT: Number of Turnovers per Year  
 6: Constant

**- Working Loss per Year**

$$WL_{VOC} = 0.0010 * VMW * VP * ANT * WLSF / 2000$$

0.0010: Constant  
 VMW: Vapor Molecular Weight (lb/lb-mole)  
 VP: Vapor Pressure (psia)  
 ANT: Annual Net Throughput  
 WLSF: Working Loss Turnover (Saturation) Factor  
 2000: Conversion Factor pounds to tons

### 13. Tanks

#### 13.1 General Information & Timeline Assumptions

**- Add or Remove Activity from Baseline?** Add

**- Activity Location**

**County:** Okaloosa  
**Regulatory Area(s):** NOT IN A REGULATORY AREA

**- Activity Title:** Jet A Storage (Tank ID/Bldg Number: 1223 / 3208)

**- Activity Description:**

Accounts for additional fuel throughout due to Contractor ADAIR sorties. Fuel use estimated based on number of sorties and time in mode. Includes fuel for use in trim tests, SUAs and in the vicinity of the airfield.

**- Activity Start Date**

**Start Month:** 1  
**Start Year:** 2023

**- Activity End Date**

**Indefinite:** No  
**End Month:** 12  
**End Year:** 2032

**- Activity Emissions:**

Pollutant	Total Emissions (TONs)
VOC	0.125196
SO <sub>x</sub>	0.000000
NO <sub>x</sub>	0.000000
CO	0.000000
PM 10	0.000000

Pollutant	Total Emissions (TONs)
PM 2.5	0.000000
Pb	0.000000
NH <sub>3</sub>	0.000000
CO <sub>2</sub> e	0.0

#### 13.2 Tanks Assumptions

**- Chemical**

**Chemical Name:** Jet kerosene (JP-5, JP-8 or Jet-A)

**Chemical Category:** Petroleum Distillates  
**Chemical Density:** 7  
**Vapor Molecular Weight (lb/lb-mole):** 130  
**Stock Vapor Density (lb/ft<sup>3</sup>):** 0.000170775135930213  
**Vapor Pressure:** 0.00725  
**Vapor Space Expansion Factor (dimensionless):** 0.068

**- Tank**

**Type of Tank:** Vertical Tank  
**Tank Height (ft):** 25  
**Tank Diameter (ft):** 21  
**Annual Net Throughput (gallon/year):** 10834

**13.3 Tank Formula(s)**

**- Vapor Space Volume**

$$\text{VSV} = (\text{PI} / 4) * \text{D}^2 * \text{H} / 2$$

VSV: Vapor Space Volume (ft<sup>3</sup>)

PI: PI Math Constant

D<sup>2</sup>: Tank Diameter (ft)

H: Tank Height (ft)

2: Conversion Factor (Vapor Space Volume is assumed to be one-half of the tank volume)

**- Vented Vapor Saturation Factor**

$$\text{VVSF} = 1 / (1 + (0.053 * \text{VP} * \text{H} / 2))$$

VVSF: Vented Vapor Saturation Factor (dimensionless)

0.053: Constant

VP: Vapor Pressure (psia)

H: Tank Height (ft)

**- Standing Storage Loss per Year**

$$\text{SSL}_{\text{voc}} = 365 * \text{VSV} * \text{SVD} * \text{VSEF} * \text{VVSF} / 2000$$

SSL<sub>voc</sub>: Standing Storage Loss Emissions (TONs)

365: Number of Daily Events in a Year (Constant)

VSV: Vapor Space Volume (ft<sup>3</sup>)

SVD: Stock Vapor Density (lb/ft<sup>3</sup>)

VSEF: Vapor Space Expansion Factor (dimensionless)

VVSF: Vented Vapor Saturation Factor (dimensionless)

2000: Conversion Factor pounds to tons

**- Number of Turnovers per Year**

$$\text{NT} = (7.48 * \text{ANT}) / ((\text{PI} / 4.0) * \text{D} * \text{H})$$

NT: Number of Turnovers per Year

7.48: Constant

ANT: Annual Net Throughput

PI: PI Math Constant

D<sup>2</sup>: Tank Diameter (ft)

H: Tank Height (ft)

**- Working Loss Turnover (Saturation) Factor per Year**

$$\text{WLSF} = (18 + \text{NT}) / (6 * \text{NT})$$

WLSF: Working Loss Turnover (Saturation) Factor per Year

18: Constant

NT: Number of Turnovers per Year

6: Constant

**- Working Loss per Year**

$$WL_{voc} = 0.0010 * VMW * VP * ANT * WLSF / 2000$$

0.0010: Constant

VMW: Vapor Molecular Weight (lb/lb-mole)

VP: Vapor Pressure (psia)

ANT: Annual Net Throughput

WLSF: Working Loss Turnover (Saturation) Factor

2000: Conversion Factor pounds to tons

**C.3.5      *Summary Air Conformity Applicability Model Report Record of Air Analysis for Eglin Air Force Base (Alternative 1)***

**Eglin Air Force Base High Scenario**

**1. General Information:** The Air Force's Air Conformity Applicability Model (ACAM) was used to perform an analysis to assess the potential air quality impact/s associated with the action in accordance with the Air Force Manual 32-7002, Environmental Compliance and Pollution Prevention; the Environmental Impact Analysis Process (EIAP, 32 CFR 989); and the General Conformity Rule (GCR, 40 CFR 93 Subpart B). This report provides a summary of the ACAM analysis.

**a. Action Location:**

**Base:** EGLIN AFB  
**State:** Florida  
**County(s):** Okaloosa  
**Regulatory Area(s):** NOT IN A REGULATORY AREA

**b. Action Title:** Eglin AFB Combat Air Force Adversary Air Plus Up with F-22 Formal Training Unit, Florida - Alternative 1

**c. Project Number/s (if applicable):** N/A

**d. Projected Action Start Date:** 1 / 2023

**e. Action Description:**

In the previously analyzed EA, Eglin AFB or the civil airports proposed for use and military training SUA were analyzed for possible suitable use by contract ADAIR service provider to support Eglin AFB operations. The elements affecting the Eglin AFB or the civil airports proposed for use included contract ADAIR aircraft, facilities, maintenance, personnel, and sorties. The previously analyzed EA included an estimated 12 contractor aircraft to fly roughly 2,400 annual sorties to support the 33 FW and other units at Eglin AFB. Additional traffic patterns were anticipated to be no more than 5 percent of the annual sortie total, about 120 sorties for a total of 2,520 annual sorties from the selected airport.

This Proposed Action includes contracting an estimated four (4) additional contractor aircraft to fly roughly 600 additional annual ADAIR sorties to support the 33 FW and other units at Eglin AFB, potentially including the F-22 FTU. The proposed number of sorties varies depending on the alternative. Additional traffic patterns are anticipated to be no more than 5 percent of the annual sortie total, about 30 sorties for a total of 630 annual sorties from the selected airport. The analysis examines three separate emission scenarios: high, medium, and low. No significant construction is anticipated as a result of the action. If it is later determined construction is required at the airfield a separate environmental analysis would be completed as required.

**f. Point of Contact:**

**Name:** Radhika Narayanan  
**Title:** Environmental Scientist  
**Organization:** Versar, LLC  
**Email:** rnarayanan@versar.com  
**Phone Number:** n/a

**2. Air Impact Analysis:** Based on the attainment status at the action location, the requirements of the General Conformity Rule are:

☐ applicable  
☒ not applicable



Total net direct and indirect emissions associated with the action were estimated through ACAM on a calendar-year basis for the start of the action through achieving “steady state” (i.e., net gain/loss upon action fully implemented) emissions. The ACAM analysis used the latest and most accurate emission estimation techniques available; all algorithms, emission factors, and methodologies used are described in detail in the USAF Air Emissions Guide for Air Force Stationary Sources, the USAF Air Emissions Guide for Air Force Mobile Sources, and the USAF Air Emissions Guide for Air Force Transitory Sources.

“Insignificance Indicators” were used in the analysis to provide an indication of the significance of potential impacts to air quality based on current ambient air quality relative to the National Ambient Air Quality Standards (NAAQSs). These insignificance indicators are the 250 ton/yr Prevention of Significant Deterioration (PSD) major source threshold for actions occurring in areas that are “Clearly Attainment” (i.e., not within 5% of any NAAQS) and the GCR de minimis values (25 ton/yr for lead and 100 ton/yr for all other criteria pollutants) for actions occurring in areas that are “Near Nonattainment” (i.e., within 5% of any NAAQS). These indicators do not define a significant impact; however, they do provide a threshold to identify actions that are insignificant. Any action with net emissions below the insignificance indicators for all criteria pollutant is considered so insignificant that the action will not cause or contribute to an exceedance on one or more NAAQSs. For further detail on insignificance indicators see chapter 4 of the Air Force Air Quality Environmental Impact Analysis Process (EIAP) Guide, Volume II - Advanced Assessments.

The action’s net emissions for every year through achieving steady state were compared against the Insignificance Indicator and are summarized below.

**Analysis Summary:**

**2023**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	11.935	250	No
NOx	56.476	250	No
CO	89.588	250	No
SOx	4.788	250	No
PM 10	8.065	250	No
PM 2.5	7.346	250	No
Pb	0.000	25	No
NH3	0.013	250	No
CO2e	11458.2		

**2024**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	11.935	250	No
NOx	56.476	250	No
CO	89.588	250	No
SOx	4.788	250	No
PM 10	8.065	250	No
PM 2.5	7.346	250	No
Pb	0.000	25	No
NH3	0.013	250	No

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<b>CO2e</b>	11458.2		
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**2025**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	11.935	250	No
NOx	56.476	250	No
CO	89.588	250	No
SOx	4.788	250	No
PM 10	8.065	250	No
PM 2.5	7.346	250	No
Pb	0.000	25	No
NH3	0.013	250	No
CO2e	11458.2		

**2026**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	11.935	250	No
NOx	56.476	250	No
CO	89.588	250	No
SOx	4.788	250	No
PM 10	8.065	250	No
PM 2.5	7.346	250	No
Pb	0.000	25	No
NH3	0.013	250	No
CO2e	11458.2		

**2027**

2021

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	11.935	250	No
NOx	56.476	250	No
CO	89.588	250	No
SOx	4.788	250	No
PM 10	8.065	250	No
PM 2.5	7.346	250	No
Pb	0.000	25	No
NH3	0.013	250	No
CO2e	11458.2		

**2028**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	11.935	250	No
NOx	56.476	250	No

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<b>CO</b>	89.588	250	No
<b>SOx</b>	4.788	250	No
<b>PM 10</b>	8.065	250	No
<b>PM 2.5</b>	7.346	250	No
<b>Pb</b>	0.000	25	No
<b>NH3</b>	0.013	250	No
<b>CO2e</b>	11458.2		

**2029**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	11.935	250	No
NOx	56.476	250	No
CO	89.588	250	No
SOx	4.788	250	No
PM 10	8.065	250	No
PM 2.5	7.346	250	No
Pb	0.000	25	No
NH3	0.013	250	No
CO2e	11458.2		

**2030**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	11.935	250	No
NOx	56.476	250	No
CO	89.588	250	No
SOx	4.788	250	No
PM 10	8.065	250	No
PM 2.5	7.346	250	No
Pb	0.000	25	No
NH3	0.013	250	No
CO2e	11458.2		

**2031**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	11.935	250	No
NOx	56.476	250	No
CO	89.588	250	No
SOx	4.788	250	No
PM 10	8.065	250	No
PM 2.5	7.346	250	No
Pb	0.000	25	No
NH3	0.013	250	No
CO2e	11458.2		

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**2032**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	11.935	250	No
NOx	56.476	250	No
CO	89.588	250	No
SOx	4.788	250	No
PM 10	8.065	250	No
PM 2.5	7.346	250	No
Pb	0.000	25	No
NH3	0.013	250	No
CO2e	11458.2		

**2033 - (Steady State)**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.000	250	No
NOx	0.000	250	No
CO	0.000	250	No
SOx	0.000	250	No
PM 10	0.000	250	No
PM 2.5	0.000	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	0.0		

None of estimated annual net emissions associated with this action are above the insignificance indicators, indicating no significant impact to air quality. Therefore, the action will not cause or contribute to an exceedance on one or more NAAQSs. No further air assessment is needed.



Radhika Narayanan, Environmental Scientist

11/17/2022  
DATE



### **Eglin Air Force Base Medium Scenario**

**1. General Information:** The Air Force's Air Conformity Applicability Model (ACAM) was used to perform an analysis to assess the potential air quality impact/s associated with the action in accordance with the Air Force Manual 32-7002, Environmental Compliance and Pollution Prevention; the Environmental Impact Analysis Process (EIAP, 32 CFR 989); and the General Conformity Rule (GCR, 40 CFR 93 Subpart B). This report provides a summary of the ACAM analysis.

**a. Action Location:**

**Base:** EGLIN AFB  
**State:** Florida  
**County(s):** Okaloosa  
**Regulatory Area(s):** NOT IN A REGULATORY AREA

**b. Action Title:** Eglin AFB Combat Air Force Adversary Air Plus Up with F-22 Formal Training Unit, Florida - Alternative 1

**c. Project Number/s (if applicable):** N/A

**d. Projected Action Start Date:** 1 / 2023

**e. Action Description:**

In the previously analyzed EA, Eglin AFB or the civil airports proposed for use and military training SUA were analyzed for possible suitable use by contract ADAIR service provider to support Eglin AFB operations. The elements affecting the Eglin AFB or the civil airports proposed for use included contract ADAIR aircraft, facilities, maintenance, personnel, and sorties. The previously analyzed EA included an estimated 12 contractor aircraft to fly roughly 2,400 annual sorties to support the 33 FW and other units at Eglin AFB. Additional traffic patterns were anticipated to be no more than 5 percent of the annual sortie total, about 120 sorties for a total of 2,520 annual sorties from the selected airport.

This Proposed Action includes contracting an estimated four (4) additional contractor aircraft to fly roughly 600 additional annual ADAIR sorties to support the 33 FW and other units at Eglin AFB, potentially including the F-22 FTU. The proposed number of sorties varies depending on the alternative. Additional traffic patterns are anticipated to be no more than 5 percent of the annual sortie total, about 30 sorties for a total of 630 annual sorties from the selected airport. The analysis examines three separate emission scenarios: high, medium, and low. No significant construction is anticipated as a result of the action. If it is later determined construction is required at the airfield a separate environmental analysis would be completed as required.

**f. Point of Contact:**

**Name:** Radhika Narayanan  
**Title:** Environmental Scientist  
**Organization:** Versar, LLC  
**Email:** rnarayanan@versar.com  
**Phone Number:** n/a

**2. Air Impact Analysis:** Based on the attainment status at the action location, the requirements of the General Conformity Rule are:

☐ applicable  
☒ not applicable

Total net direct and indirect emissions associated with the action were estimated through ACAM on a calendar-year basis for the start of the action through achieving "steady state" (i.e., net gain/loss upon action fully implemented) emissions. The ACAM analysis used the latest and most accurate emission

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estimation techniques available; all algorithms, emission factors, and methodologies used are described in detail in the USAF Air Emissions Guide for Air Force Stationary Sources, the USAF Air Emissions Guide for Air Force Mobile Sources, and the USAF Air Emissions Guide for Air Force Transitory Sources.

“Insignificance Indicators” were used in the analysis to provide an indication of the significance of potential impacts to air quality based on current ambient air quality relative to the National Ambient Air Quality Standards (NAAQSs). These insignificance indicators are the 250 ton/yr Prevention of Significant Deterioration (PSD) major source threshold for actions occurring in areas that are “Clearly Attainment” (i.e., not within 5% of any NAAQS) and the GCR de minimis values (25 ton/yr for lead and 100 ton/yr for all other criteria pollutants) for actions occurring in areas that are “Near Nonattainment” (i.e., within 5% of any NAAQS). These indicators do not define a significant impact; however, they do provide a threshold to identify actions that are insignificant. Any action with net emissions below the insignificance indicators for all criteria pollutant is considered so insignificant that the action will not cause or contribute to an exceedance on one or more NAAQSs. For further detail on insignificance indicators see chapter 4 of the Air Force Air Quality Environmental Impact Analysis Process (EIAP) Guide, Volume II - Advanced Assessments.

The action’s net emissions for every year through achieving steady state were compared against the Insignificance Indicator and are summarized below.

**Analysis Summary:**

**2023**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	6.622	250	No
NOx	32.832	250	No
CO	45.349	250	No
SOx	3.118	250	No
PM 10	4.613	250	No
PM 2.5	3.077	250	No
Pb	0.000	25	No
NH3	0.013	250	No
CO2e	7636.7		

**2024**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	6.622	250	No
NOx	32.832	250	No
CO	45.349	250	No
SOx	3.118	250	No
PM 10	4.613	250	No
PM 2.5	3.077	250	No
Pb	0.000	25	No
NH3	0.013	250	No
CO2e	7636.7		

**2025**

Pollutant	INSIGNIFICANCE INDICATOR		
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	Action Emissions (ton/yr)	Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	6.622	250	No
NOx	32.832	250	No
CO	45.349	250	No
SOx	3.118	250	No
PM 10	4.613	250	No
PM 2.5	3.077	250	No
Pb	0.000	25	No
NH3	0.013	250	No
CO2e	7636.7		

**2026**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	6.622	250	No
NOx	32.832	250	No
CO	45.349	250	No
SOx	3.118	250	No
PM 10	4.613	250	No
PM 2.5	3.077	250	No
Pb	0.000	25	No
NH3	0.013	250	No
CO2e	7636.7		

**2027**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	6.622	250	No
NOx	32.832	250	No
CO	45.349	250	No
SOx	3.118	250	No
PM 10	4.613	250	No
PM 2.5	3.077	250	No
Pb	0.000	25	No
NH3	0.013	250	No
CO2e	7636.7		

**2028**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	6.622	250	No
NOx	32.832	250	No
CO	45.349	250	No
SOx	3.118	250	No
PM 10	4.613	250	No
PM 2.5	3.077	250	No

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<b>Pb</b>	0.000	25	No
<b>NH3</b>	0.013	250	No
<b>CO2e</b>	7636.7		

**2029**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	6.622	250	No
NOx	32.832	250	No
CO	45.349	250	No
SOx	3.118	250	No
PM 10	4.613	250	No
PM 2.5	3.077	250	No
Pb	0.000	25	No
NH3	0.013	250	No
CO2e	7636.7		

**2030**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	6.622	250	No
NOx	32.832	250	No
CO	45.349	250	No
SOx	3.118	250	No
PM 10	4.613	250	No
PM 2.5	3.077	250	No
Pb	0.000	25	No
NH3	0.013	250	No
CO2e	7636.7		

**2031**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	6.622	250	No
NOx	32.832	250	No
CO	45.349	250	No
SOx	3.118	250	No
PM 10	4.613	250	No
PM 2.5	3.077	250	No
Pb	0.000	25	No
NH3	0.013	250	No
CO2e	7636.7		

**2032**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			



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<b>VOC</b>	6.622	250	No
<b>NOx</b>	32.832	250	No
<b>CO</b>	45.349	250	No
<b>SOx</b>	3.118	250	No
<b>PM 10</b>	4.613	250	No
<b>PM 2.5</b>	3.077	250	No
<b>Pb</b>	0.000	25	No
<b>NH3</b>	0.013	250	No
<b>CO2e</b>	7636.7		

**2033 - (Steady State)**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.000	250	No
NOx	0.000	250	No
CO	0.000	250	No
SOx	0.000	250	No
PM 10	0.000	250	No
PM 2.5	0.000	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	0.0		

None of estimated annual net emissions associated with this action are above the insignificance indicators, indicating no significant impact to air quality. Therefore, the action will not cause or contribute to an exceedance on one or more NAAQSs. No further air assessment is needed.



Radhika Narayanan, Environmental Scientist

11/17/2022  
DATE

### **Eglin Air Force Base Low Scenario**

**1. General Information:** The Air Force's Air Conformity Applicability Model (ACAM) was used to perform an analysis to assess the potential air quality impact/s associated with the action in accordance with the Air Force Manual 32-7002, Environmental Compliance and Pollution Prevention; the Environmental Impact Analysis Process (EIAP, 32 CFR 989); and the General Conformity Rule (GCR, 40 CFR 93 Subpart B). This report provides a summary of the ACAM analysis.

**a. Action Location:**

**Base:** EGLIN AFB  
**State:** Florida  
**County(s):** Okaloosa  
**Regulatory Area(s):** NOT IN A REGULATORY AREA

**b. Action Title:** Eglin AFB Combat Air Force Adversary Air Plus Up with F-22 Formal Training Unit, Florida - Alternative 1

**c. Project Number/s (if applicable):** N/A

**d. Projected Action Start Date:** 1 / 2023

**e. Action Description:**

In the previously analyzed EA, Eglin AFB or the civil airports proposed for use and military training SUA were analyzed for possible suitable use by contract ADAIR service provider to support Eglin AFB operations. The elements affecting the Eglin AFB or the civil airports proposed for use included contract ADAIR aircraft, facilities, maintenance, personnel, and sorties. The previously analyzed EA included an estimated 12 contractor aircraft to fly roughly 2,400 annual sorties to support the 33 FW and other units at Eglin AFB. Additional traffic patterns were anticipated to be no more than 5 percent of the annual sortie total, about 120 sorties for a total of 2,520 annual sorties from the selected airport.

This Proposed Action includes contracting an estimated four (4) additional contractor aircraft to fly roughly 600 additional annual ADAIR sorties to support the 33 FW and other units at Eglin AFB, potentially including the F-22 FTU. The proposed number of sorties varies depending on the alternative. Additional traffic patterns are anticipated to be no more than 5 percent of the annual sortie total, about 30 sorties for a total of 630 annual sorties from the selected airport. The analysis examines three separate emission scenarios: high, medium, and low. No significant construction is anticipated as a result of the action. If it is later determined construction is required at the airfield a separate environmental analysis would be completed as required.

**f. Point of Contact:**

**Name:** Radhika Narayanan  
**Title:** Environmental Scientist  
**Organization:** Versar, LLC  
**Email:** rnarayanan@versar.com  
**Phone Number:** n/a

**2. Air Impact Analysis:** Based on the attainment status at the action location, the requirements of the General Conformity Rule are:

☐ applicable  
☒ not applicable

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Total net direct and indirect emissions associated with the action were estimated through ACAM on a calendar-year basis for the start of the action through achieving “steady state” (i.e., net gain/loss upon action fully implemented) emissions. The ACAM analysis used the latest and most accurate emission estimation techniques available; all algorithms, emission factors, and methodologies used are described in detail in the USAF Air Emissions Guide for Air Force Stationary Sources, the USAF Air Emissions Guide for Air Force Mobile Sources, and the USAF Air Emissions Guide for Air Force Transitory Sources.

“Insignificance Indicators” were used in the analysis to provide an indication of the significance of potential impacts to air quality based on current ambient air quality relative to the National Ambient Air Quality Standards (NAAQSs). These insignificance indicators are the 250 ton/yr Prevention of Significant Deterioration (PSD) major source threshold for actions occurring in areas that are “Clearly Attainment” (i.e., not within 5% of any NAAQS) and the GCR de minimis values (25 ton/yr for lead and 100 ton/yr for all other criteria pollutants) for actions occurring in areas that are “Near Nonattainment” (i.e., within 5% of any NAAQS). These indicators do not define a significant impact; however, they do provide a threshold to identify actions that are insignificant. Any action with net emissions below the insignificance indicators for all criteria pollutant is considered so insignificant that the action will not cause or contribute to an exceedance on one or more NAAQSs. For further detail on insignificance indicators see chapter 4 of the Air Force Air Quality Environmental Impact Analysis Process (EIAP) Guide, Volume II - Advanced Assessments.

The action's net emissions for every year through achieving steady state were compared against the Insignificance Indicator and are summarized below.

**Analysis Summary:**

**2023**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	31.220	250	No
NOx	14.664	250	No
CO	158.743	250	Yes
SOx	2.269	250	No
PM 10	1.273	250	No
PM 2.5	1.234	250	No
Pb	0.000	25	No
NH3	0.013	250	No
CO2e	4939.4		

**2024**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	31.220	250	No
NOx	14.664	250	No
CO	158.743	250	Yes
SOx	2.269	250	No
PM 10	1.273	250	No
PM 2.5	1.234	250	No
Pb	0.000	25	No
NH3	0.013	250	No
CO2e	4939.4		

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**2025**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	31.220	250	No
NOx	14.664	250	No
CO	158.743	250	Yes
SOx	2.269	250	No
PM 10	1.273	250	No
PM 2.5	1.234	250	No
Pb	0.000	25	No
NH3	0.013	250	No
CO2e	4939.4		

**2026**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	31.220	250	No
NOx	14.664	250	No
CO	158.743	250	Yes
SOx	2.269	250	No
PM 10	1.273	250	No
PM 2.5	1.234	250	No
Pb	0.000	25	No
NH3	0.013	250	No
CO2e	4939.4		

**2027**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	31.220	250	No
NOx	14.664	250	No
CO	158.743	250	Yes
SOx	2.269	250	No
PM 10	1.273	250	No
PM 2.5	1.234	250	No
Pb	0.000	25	No
NH3	0.013	250	No
CO2e	4939.4		

**2028**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	31.220	250	No
NOx	14.664	250	No
CO	158.743	250	Yes



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<b>SOx</b>	2.269	250	No
<b>PM 10</b>	1.273	250	No
<b>PM 2.5</b>	1.234	250	No
<b>Pb</b>	0.000	25	No
<b>NH3</b>	0.013	250	No
<b>CO2e</b>	4939.4		

**2029**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	31.220	250	No
NOx	14.664	250	No
CO	158.743	250	Yes
SOx	2.269	250	No
PM 10	1.273	250	No
PM 2.5	1.234	250	No
Pb	0.000	25	No
NH3	0.013	250	No
CO2e	4939.4		

**2030**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	31.220	250	No
NOx	14.664	250	No
CO	158.743	250	Yes
SOx	2.269	250	No
PM 10	1.273	250	No
PM 2.5	1.234	250	No
Pb	0.000	25	No
NH3	0.013	250	No
CO2e	4939.4		

**2031**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	31.220	250	No
NOx	14.664	250	No
CO	158.743	250	Yes
SOx	2.269	250	No
PM 10	1.273	250	No
PM 2.5	1.234	250	No
Pb	0.000	25	No
NH3	0.013	250	No
CO2e	4939.4		

**2032**

Pollutant		INSIGNIFICANCE INDICATOR	
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	Action Emissions (ton/yr)	Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
<b>VOC</b>	31.220	250	No
<b>NOx</b>	14.664	250	No
<b>CO</b>	158.743	250	Yes
<b>SOx</b>	2.269	250	No
<b>PM 10</b>	1.273	250	No
<b>PM 2.5</b>	1.234	250	No
<b>Pb</b>	0.000	25	No
<b>NH3</b>	0.013	250	No
<b>CO2e</b>	4939.4		

**2033 - (Steady State)**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.000	250	No
NOx	0.000	250	No
CO	0.000	250	No
SOx	0.000	250	No
PM 10	0.000	250	No
PM 2.5	0.000	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	0.0		

The estimated annual net emissions associated with this action temporarily exceed the insignificance indicators. However, the steady state estimated annual net emissions are below the insignificance indicators showing no significant long-term impact to air quality. Therefore, the action will not cause or contribute to an exceedance on one or more NAAQSs. No further air assessment is needed.



Radhika Narayanan, Environmental Scientist

11/17/2022  
DATE

**C.3.6      *Summary Air Conformity Applicability Model Report Record of Air Analysis for Eglin Air Force Base (Alternatives 2&3)***

**Eglin Air Force Base High Scenario**

**1. General Information:** The Air Force's Air Conformity Applicability Model (ACAM) was used to perform an analysis to assess the potential air quality impact/s associated with the action in accordance with the Air Force Manual 32-7002, Environmental Compliance and Pollution Prevention; the Environmental Impact Analysis Process (EIAP, 32 CFR 989); and the General Conformity Rule (GCR, 40 CFR 93 Subpart B). This report provides a summary of the ACAM analysis.

**a. Action Location:**

**Base:** EGLIN AFB  
**State:** Florida  
**County(s):** Okaloosa  
**Regulatory Area(s):** NOT IN A REGULATORY AREA

**b. Action Title:** Eglin AFB Combat Air Force Adversary Air Plus Up with F-22 Formal Training Unit, Florida - Alternatives 2 & 3

**c. Project Number/s (if applicable):** N/A

**d. Projected Action Start Date:** 1 / 2023

**e. Action Description:**

In the previously analyzed EA, Eglin AFB or the civil airports proposed for use and military training SUA were analyzed for possible suitable use by contract ADAIR service provider to support Eglin AFB operations. The elements affecting the Eglin AFB or the civil airports proposed for use included contract ADAIR aircraft, facilities, maintenance, personnel, and sorties. The previously analyzed EA included an estimated 12 contractor aircraft to fly roughly 2,400 annual sorties to support the 33 FW and other units at Eglin AFB. Additional traffic patterns were anticipated to be no more than 5 percent of the annual sortie total, about 120 sorties for a total of 2,520 annual sorties from the selected airport.

This Proposed Action includes contracting an estimated four (4) additional contractor aircraft to fly roughly 600 additional annual ADAIR sorties to support the 33 FW and other units at Eglin AFB, potentially including the F-22 FTU. The proposed number of sorties varies depending on the alternative. Additional traffic patterns are anticipated to be no more than 5 percent of the annual sortie total, about 30 sorties for a total of 630 annual sorties from the selected airport. The analysis examines three separate emission scenarios: high, medium, and low. No significant construction is anticipated as a result of the action. If it is later determined construction is required at the airfield a separate environmental analysis would be completed as required.

**f. Point of Contact:**

**Name:** Radhika Narayanan  
**Title:** Environmental Scientist  
**Organization:** Versar, LLC  
**Email:** rnarayanan@versar.com  
**Phone Number:** n/a

**2. Air Impact Analysis:** Based on the attainment status at the action location, the requirements of the General Conformity Rule are:

☐ applicable  
☒ not applicable

Total net direct and indirect emissions associated with the action were estimated through ACAM on a calendar-year basis for the start of the action through achieving “steady state” (i.e., net gain/loss upon action fully implemented) emissions. The ACAM analysis used the latest and most accurate emission estimation techniques available; all algorithms, emission factors, and methodologies used are described in detail in the USAF Air Emissions Guide for Air Force Stationary Sources, the USAF Air Emissions Guide for Air Force Mobile Sources, and the USAF Air Emissions Guide for Air Force Transitory Sources.

“Insignificance Indicators” were used in the analysis to provide an indication of the significance of potential impacts to air quality based on current ambient air quality relative to the National Ambient Air Quality Standards (NAAQSs). These insignificance indicators are the 250 ton/yr Prevention of Significant Deterioration (PSD) major source threshold for actions occurring in areas that are “Clearly Attainment” (i.e., not within 5% of any NAAQS) and the GCR de minimis values (25 ton/yr for lead and 100 ton/yr for all other criteria pollutants) for actions occurring in areas that are “Near Nonattainment” (i.e., within 5% of any NAAQS). These indicators do not define a significant impact; however, they do provide a threshold to identify actions that are insignificant. Any action with net emissions below the insignificance indicators for all criteria pollutant is considered so insignificant that the action will not cause or contribute to an exceedance on one or more NAAQSs. For further detail on insignificance indicators see chapter 4 of the Air Force Air Quality Environmental Impact Analysis Process (EIAP) Guide, Volume II - Advanced Assessments.

The action’s net emissions for every year through achieving steady state were compared against the Insignificance Indicator and are summarized below.

**Analysis Summary:**

**2023**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	3.795	250	No
NOx	15.600	250	No
CO	22.918	250	No
SOx	1.287	250	No
PM 10	2.111	250	No
PM 2.5	1.922	250	No
Pb	0.000	25	No
NH3	0.003	250	No
CO2e	3134.6		

**2024**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	3.795	250	No
NOx	15.600	250	No
CO	22.918	250	No
SOx	1.287	250	No
PM 10	2.111	250	No
PM 2.5	1.922	250	No
Pb	0.000	25	No
NH3	0.003	250	No



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<b>CO2e</b>	3134.6		
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**2025**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	3.795	250	No
NOx	15.600	250	No
CO	22.918	250	No
SOx	1.287	250	No
PM 10	2.111	250	No
PM 2.5	1.922	250	No
Pb	0.000	25	No
NH3	0.003	250	No
CO2e	3134.6		

**2026**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	3.795	250	No
NOx	15.600	250	No
CO	22.918	250	No
SOx	1.287	250	No
PM 10	2.111	250	No
PM 2.5	1.922	250	No
Pb	0.000	25	No
NH3	0.003	250	No
CO2e	3134.6		

**2027**

2021

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	3.795	250	No
NOx	15.600	250	No
CO	22.918	250	No
SOx	1.287	250	No
PM 10	2.111	250	No
PM 2.5	1.922	250	No
Pb	0.000	25	No
NH3	0.003	250	No
CO2e	3134.6		

**2028**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	3.795	250	No
NOx	15.600	250	No

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<b>CO</b>	22.918	250	No
<b>SOx</b>	1.287	250	No
<b>PM 10</b>	2.111	250	No
<b>PM 2.5</b>	1.922	250	No
<b>Pb</b>	0.000	25	No
<b>NH3</b>	0.003	250	No
<b>CO2e</b>	3134.6		

**2029**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	3.795	250	No
NOx	15.600	250	No
CO	22.918	250	No
SOx	1.287	250	No
PM 10	2.111	250	No
PM 2.5	1.922	250	No
Pb	0.000	25	No
NH3	0.003	250	No
CO2e	3134.6		

**2030**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	3.795	250	No
NOx	15.600	250	No
CO	22.918	250	No
SOx	1.287	250	No
PM 10	2.111	250	No
PM 2.5	1.922	250	No
Pb	0.000	25	No
NH3	0.003	250	No
CO2e	3134.6		

**2031**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	3.795	250	No
NOx	15.600	250	No
CO	22.918	250	No
SOx	1.287	250	No
PM 10	2.111	250	No
PM 2.5	1.922	250	No
Pb	0.000	25	No
NH3	0.003	250	No
CO2e	3134.6		

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**2032**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	3.795	250	No
NOx	15.600	250	No
CO	22.918	250	No
SOx	1.287	250	No
PM 10	2.111	250	No
PM 2.5	1.922	250	No
Pb	0.000	25	No
NH3	0.003	250	No
CO2e	3134.6		

**2033 - (Steady State)**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.000	250	No
NOx	0.000	250	No
CO	0.000	250	No
SOx	0.000	250	No
PM 10	0.000	250	No
PM 2.5	0.000	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	0.0		

None of estimated annual net emissions associated with this action are above the insignificance indicators, indicating no significant impact to air quality. Therefore, the action will not cause or contribute to an exceedance on one or more NAAQSs. No further air assessment is needed.



Radhika Narayanan, Environmental Scientist

11/17/2022  
DATE

### **Eglin Air Force Base Medium Scenario**

**1. General Information:** The Air Force's Air Conformity Applicability Model (ACAM) was used to perform an analysis to assess the potential air quality impact/s associated with the action in accordance with the Air Force Manual 32-7002, Environmental Compliance and Pollution Prevention; the Environmental Impact Analysis Process (EIAP, 32 CFR 989); and the General Conformity Rule (GCR, 40 CFR 93 Subpart B). This report provides a summary of the ACAM analysis.

**a. Action Location:**

**Base:** EGLIN AFB  
**State:** Florida  
**County(s):** Okaloosa  
**Regulatory Area(s):** NOT IN A REGULATORY AREA

**b. Action Title:** Eglin AFB Combat Air Force Adversary Air Plus Up with F-22 Formal Training Unit, Florida - Alternatives 2 & 3

**c. Project Number/s (if applicable):** N/A

**d. Projected Action Start Date:** 1 / 2023

**e. Action Description:**

In the previously analyzed EA, Eglin AFB or the civil airports proposed for use and military training SUA were analyzed for possible suitable use by contract ADAIR service provider to support Eglin AFB operations. The elements affecting the Eglin AFB or the civil airports proposed for use included contract ADAIR aircraft, facilities, maintenance, personnel, and sorties. The previously analyzed EA included an estimated 12 contractor aircraft to fly roughly 2,400 annual sorties to support the 33 FW and other units at Eglin AFB. Additional traffic patterns were anticipated to be no more than 5 percent of the annual sortie total, about 120 sorties for a total of 2,520 annual sorties from the selected airport.

This Proposed Action includes contracting an estimated four (4) additional contractor aircraft to fly roughly 600 additional annual ADAIR sorties to support the 33 FW and other units at Eglin AFB, potentially including the F-22 FTU. The proposed number of sorties varies depending on the alternative. Additional traffic patterns are anticipated to be no more than 5 percent of the annual sortie total, about 30 sorties for a total of 630 annual sorties from the selected airport. The analysis examines three separate emission scenarios: high, medium, and low. No significant construction is anticipated as a result of the action. If it is later determined construction is required at the airfield a separate environmental analysis would be completed as required.

**f. Point of Contact:**

**Name:** Radhika Narayanan  
**Title:** Environmental Scientist  
**Organization:** Versar, LLC  
**Email:** rnarayanan@versar.com  
**Phone Number:** n/a

**2. Air Impact Analysis:** Based on the attainment status at the action location, the requirements of the General Conformity Rule are:

☐ applicable  
☒ not applicable



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Total net direct and indirect emissions associated with the action were estimated through ACAM on a calendar-year basis for the start of the action through achieving “steady state” (i.e., net gain/loss upon action fully implemented) emissions. The ACAM analysis used the latest and most accurate emission estimation techniques available; all algorithms, emission factors, and methodologies used are described in detail in the USAF Air Emissions Guide for Air Force Stationary Sources, the USAF Air Emissions Guide for Air Force Mobile Sources, and the USAF Air Emissions Guide for Air Force Transitory Sources.

“Insignificance Indicators” were used in the analysis to provide an indication of the significance of potential impacts to air quality based on current ambient air quality relative to the National Ambient Air Quality Standards (NAAQSs). These insignificance indicators are the 250 ton/yr Prevention of Significant Deterioration (PSD) major source threshold for actions occurring in areas that are “Clearly Attainment” (i.e., not within 5% of any NAAQS) and the GCR de minimis values (25 ton/yr for lead and 100 ton/yr for all other criteria pollutants) for actions occurring in areas that are “Near Nonattainment” (i.e., within 5% of any NAAQS). These indicators do not define a significant impact; however, they do provide a threshold to identify actions that are insignificant. Any action with net emissions below the insignificance indicators for all criteria pollutant is considered so insignificant that the action will not cause or contribute to an exceedance on one or more NAAQSs. For further detail on insignificance indicators see chapter 4 of the Air Force Air Quality Environmental Impact Analysis Process (EIAP) Guide, Volume II - Advanced Assessments.

The action's net emissions for every year through achieving steady state were compared against the Insignificance Indicator and are summarized below.

**Analysis Summary:**

**2023**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	2.438	250	No
NOx	8.832	250	No
CO	11.865	250	No
SOx	0.820	250	No
PM 10	1.199	250	No
PM 2.5	0.802	250	No
Pb	0.000	25	No
NH3	0.003	250	No
CO2e	2029.2		

**2024**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	2.438	250	No
NOx	8.832	250	No
CO	11.865	250	No
SOx	0.820	250	No
PM 10	1.199	250	No
PM 2.5	0.802	250	No
Pb	0.000	25	No
NH3	0.003	250	No
CO2e	2029.2		

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**2025**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	2.438	250	No
NOx	8.832	250	No
CO	11.865	250	No
SOx	0.820	250	No
PM 10	1.199	250	No
PM 2.5	0.802	250	No
Pb	0.000	25	No
NH3	0.003	250	No
CO2e	2029.2		

**2026**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	2.438	250	No
NOx	8.832	250	No
CO	11.865	250	No
SOx	0.820	250	No
PM 10	1.199	250	No
PM 2.5	0.802	250	No
Pb	0.000	25	No
NH3	0.003	250	No
CO2e	2029.2		

**2027**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	2.438	250	No
NOx	8.832	250	No
CO	11.865	250	No
SOx	0.820	250	No
PM 10	1.199	250	No
PM 2.5	0.802	250	No
Pb	0.000	25	No
NH3	0.003	250	No
CO2e	2029.2		

**2028**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	2.438	250	No
NOx	8.832	250	No
CO	11.865	250	No

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<b>SOx</b>	0.820	250	No
<b>PM 10</b>	1.199	250	No
<b>PM 2.5</b>	0.802	250	No
<b>Pb</b>	0.000	25	No
<b>NH3</b>	0.003	250	No
<b>CO2e</b>	2029.2		

**2029**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	2.438	250	No
NOx	8.832	250	No
CO	11.865	250	No
SOx	0.820	250	No
PM 10	1.199	250	No
PM 2.5	0.802	250	No
Pb	0.000	25	No
NH3	0.003	250	No
CO2e	2029.2		

**2030**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	2.438	250	No
NOx	8.832	250	No
CO	11.865	250	No
SOx	0.820	250	No
PM 10	1.199	250	No
PM 2.5	0.802	250	No
Pb	0.000	25	No
NH3	0.003	250	No
CO2e	2029.2		

**2031**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	2.438	250	No
NOx	8.832	250	No
CO	11.865	250	No
SOx	0.820	250	No
PM 10	1.199	250	No
PM 2.5	0.802	250	No
Pb	0.000	25	No
NH3	0.003	250	No
CO2e	2029.2		

**2032**

Pollutant		INSIGNIFICANCE INDICATOR	
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	<b>Action Emissions (ton/yr)</b>	<b>Indicator (ton/yr)</b>	<b>Exceedance (Yes or No)</b>
NOT IN A REGULATORY AREA			
<b>VOC</b>	2.438	250	No
<b>NOx</b>	8.832	250	No
<b>CO</b>	11.865	250	No
<b>SOx</b>	0.820	250	No
<b>PM 10</b>	1.199	250	No
<b>PM 2.5</b>	0.802	250	No
<b>Pb</b>	0.000	25	No
<b>NH3</b>	0.003	250	No
<b>CO2e</b>	2029.2		

**2033 - (Steady State)**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.000	250	No
NOx	0.000	250	No
CO	0.000	250	No
SOx	0.000	250	No
PM 10	0.000	250	No
PM 2.5	0.000	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	0.0		

None of estimated annual net emissions associated with this action are above the insignificance indicators, indicating no significant impact to air quality. Therefore, the action will not cause or contribute to an exceedance on one or more NAAQSs. No further air assessment is needed.



Radhika Narayanan, Environmental Scientist

11/17/2022  
DATE



### **Eglin Air Force Base Low Scenario**

**1. General Information:** The Air Force's Air Conformity Applicability Model (ACAM) was used to perform an analysis to assess the potential air quality impact/s associated with the action in accordance with the Air Force Manual 32-7002, Environmental Compliance and Pollution Prevention; the Environmental Impact Analysis Process (EIAP, 32 CFR 989); and the General Conformity Rule (GCR, 40 CFR 93 Subpart B). This report provides a summary of the ACAM analysis.

**a. Action Location:**

**Base:** EGLIN AFB  
**State:** Florida  
**County(s):** Okaloosa  
**Regulatory Area(s):** NOT IN A REGULATORY AREA

**b. Action Title:** Eglin AFB Combat Air Force Adversary Air Plus Up with F-22 Formal Training Unit, Florida - Alternatives 2 & 3

**c. Project Number/s (if applicable):** N/A

**d. Projected Action Start Date:** 1 / 2023

**e. Action Description:**

In the previously analyzed EA, Eglin AFB or the civil airports proposed for use and military training SUA were analyzed for possible suitable use by contract ADAIR service provider to support Eglin AFB operations. The elements affecting the Eglin AFB or the civil airports proposed for use included contract ADAIR aircraft, facilities, maintenance, personnel, and sorties. The previously analyzed EA included an estimated 12 contractor aircraft to fly roughly 2,400 annual sorties to support the 33 FW and other units at Eglin AFB. Additional traffic patterns were anticipated to be no more than 5 percent of the annual sortie total, about 120 sorties for a total of 2,520 annual sorties from the selected airport.

This Proposed Action includes contracting an estimated four (4) additional contractor aircraft to fly roughly 600 additional annual ADAIR sorties to support the 33 FW and other units at Eglin AFB, potentially including the F-22 FTU. The proposed number of sorties varies depending on the alternative. Additional traffic patterns are anticipated to be no more than 5 percent of the annual sortie total, about 30 sorties for a total of 630 annual sorties from the selected airport. The analysis examines three separate emission scenarios: high, medium, and low. No significant construction is anticipated as a result of the action. If it is later determined construction is required at the airfield a separate environmental analysis would be completed as required.

**f. Point of Contact:**

**Name:** Radhika Narayanan  
**Title:** Environmental Scientist  
**Organization:** Versar, LLC  
**Email:** rnarayanan@versar.com  
**Phone Number:** n/a

**2. Air Impact Analysis:** Based on the attainment status at the action location, the requirements of the General Conformity Rule are:

☐ applicable  
☒ not applicable

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Total net direct and indirect emissions associated with the action were estimated through ACAM on a calendar-year basis for the start of the action through achieving “steady state” (i.e., net gain/loss upon action fully implemented) emissions. The ACAM analysis used the latest and most accurate emission estimation techniques available; all algorithms, emission factors, and methodologies used are described in detail in the USAF Air Emissions Guide for Air Force Stationary Sources, the USAF Air Emissions Guide for Air Force Mobile Sources, and the USAF Air Emissions Guide for Air Force Transitory Sources.

“Insignificance Indicators” were used in the analysis to provide an indication of the significance of potential impacts to air quality based on current ambient air quality relative to the National Ambient Air Quality Standards (NAAQSs). These insignificance indicators are the 250 ton/yr Prevention of Significant Deterioration (PSD) major source threshold for actions occurring in areas that are “Clearly Attainment” (i.e., not within 5% of any NAAQS) and the GCR de minimis values (25 ton/yr for lead and 100 ton/yr for all other criteria pollutants) for actions occurring in areas that are “Near Nonattainment” (i.e., within 5% of any NAAQS). These indicators do not define a significant impact; however, they do provide a threshold to identify actions that are insignificant. Any action with net emissions below the insignificance indicators for all criteria pollutant is considered so insignificant that the action will not cause or contribute to an exceedance on one or more NAAQSs. For further detail on insignificance indicators see chapter 4 of the Air Force Air Quality Environmental Impact Analysis Process (EIAP) Guide, Volume II - Advanced Assessments.

The action's net emissions for every year through achieving steady state were compared against the Insignificance Indicator and are summarized below.

**Analysis Summary:**

**2023**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	8.684	250	No
NOx	3.714	250	No
CO	40.761	250	No
SOx	0.591	250	No
PM 10	0.318	250	No
PM 2.5	0.309	250	No
Pb	0.000	25	No
NH3	0.003	250	No
CO2e	1306.6		

**2024**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	8.684	250	No
NOx	3.714	250	No
CO	40.761	250	No
SOx	0.591	250	No
PM 10	0.318	250	No
PM 2.5	0.309	250	No
Pb	0.000	25	No
NH3	0.003	250	No
CO2e	1306.6		

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**2025**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	8.684	250	No
NOx	3.714	250	No
CO	40.761	250	No
SOx	0.591	250	No
PM 10	0.318	250	No
PM 2.5	0.309	250	No
Pb	0.000	25	No
NH3	0.003	250	No
CO2e	1306.6		

**2026**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	8.684	250	No
NOx	3.714	250	No
CO	40.761	250	No
SOx	0.591	250	No
PM 10	0.318	250	No
PM 2.5	0.309	250	No
Pb	0.000	25	No
NH3	0.003	250	No
CO2e	1306.6		

**2027**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	8.684	250	No
NOx	3.714	250	No
CO	40.761	250	No
SOx	0.591	250	No
PM 10	0.318	250	No
PM 2.5	0.309	250	No
Pb	0.000	25	No
NH3	0.003	250	No
CO2e	1306.6		

**2028**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	8.684	250	No
NOx	3.714	250	No
CO	40.761	250	No

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<b>SOx</b>	0.591	250	No
<b>PM 10</b>	0.318	250	No
<b>PM 2.5</b>	0.309	250	No
<b>Pb</b>	0.000	25	No
<b>NH3</b>	0.003	250	No
<b>CO2e</b>	1306.6		

**2029**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	8.684	250	No
NOx	3.714	250	No
CO	40.761	250	No
SOx	0.591	250	No
PM 10	0.318	250	No
PM 2.5	0.309	250	No
Pb	0.000	25	No
NH3	0.003	250	No
CO2e	1306.6		

**2030**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	8.684	250	No
NOx	3.714	250	No
CO	40.761	250	No
SOx	0.591	250	No
PM 10	0.318	250	No
PM 2.5	0.309	250	No
Pb	0.000	25	No
NH3	0.003	250	No
CO2e	1306.6		

**2031**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	8.684	250	No
NOx	3.714	250	No
CO	40.761	250	No
SOx	0.591	250	No
PM 10	0.318	250	No
PM 2.5	0.309	250	No
Pb	0.000	25	No
NH3	0.003	250	No
CO2e	1306.6		

**2032**

Pollutant	INSIGNIFICANCE INDICATOR		
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	Action Emissions (ton/yr)	Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	8.684	250	No
NOx	3.714	250	No
CO	40.761	250	No
SOx	0.591	250	No
PM 10	0.318	250	No
PM 2.5	0.309	250	No
Pb	0.000	25	No
NH3	0.003	250	No
CO2e	1306.6		

**2033 - (Steady State)**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.000	250	No
NOx	0.000	250	No
CO	0.000	250	No
SOx	0.000	250	No
PM 10	0.000	250	No
PM 2.5	0.000	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	0.0		

None of estimated annual net emissions associated with this action are above the insignificance indicators, indicating no significant impact to air quality. Therefore, the action will not cause or contribute to an exceedance on one or more NAAQSs. No further air assessment is needed.



Radhika Narayanan, Environmental Scientist

11/17/2022  
DATE



**C.3.7      *Summary Air Conformity Applicability Model Report Record of Air Analysis for Northwest Florida Beaches International Airport (Alternative 4)***

**Northwest Florida Beaches International Airport High Scenario**

**1. General Information:** The Air Force's Air Conformity Applicability Model (ACAM) was used to perform an analysis to assess the potential air quality impact/s associated with the action in accordance with the Air Force Manual 32-7002, Environmental Compliance and Pollution Prevention; the Environmental Impact Analysis Process (EIAP, 32 CFR 989); and the General Conformity Rule (GCR, 40 CFR 93 Subpart B). This report provides a summary of the ACAM analysis.

**a. Action Location:**

**Base:** EGLIN AFB  
**State:** Florida  
**County(s):** Bay  
**Regulatory Area(s):** NOT IN A REGULATORY AREA

**b. Action Title:** Eglin AFB Combat Air Force Adversary Air Plus Up with F-22 Formal Training Unit, Florida - Alternative 4

**c. Project Number/s (if applicable):** N/A

**d. Projected Action Start Date:** 1 / 2023

**e. Action Description:**

In the previously analyzed EA, Eglin AFB or the civil airports proposed for use and military training SUA were analyzed for possible suitable use by contract ADAIR service provider to support Eglin AFB operations. The elements affecting the Eglin AFB or the civil airports proposed for use included contract ADAIR aircraft, facilities, maintenance, personnel, and sorties. The previously analyzed EA included an estimated 12 contractor aircraft to fly roughly 2,400 annual sorties to support the 33 FW and other units at Eglin AFB. Additional traffic patterns were anticipated to be no more than 5 percent of the annual sortie total, about 120 sorties for a total of 2,520 annual sorties from the selected airport.

This Proposed Action includes contracting an estimated four (4) additional contractor aircraft to fly roughly 600 additional annual ADAIR sorties to support the 33 FW and other units at Eglin AFB, potentially including the F-22 FTU. The proposed number of sorties varies depending on the alternative. Additional traffic patterns are anticipated to be no more than 5 percent of the annual sortie total, about 30 sorties for a total of 630 annual sorties from the selected airport. The analysis examines three separate emission scenarios: high, medium, and low. No significant construction is anticipated as a result of the action. If it is later determined construction is required at the airfield a separate environmental analysis would be completed as required.

**f. Point of Contact:**

**Name:** Radhika Narayanan  
**Title:** Environmental Scientist  
**Organization:** Versar, LLC  
**Email:** rnarayanan@versar.com  
**Phone Number:** n/a

**2. Air Impact Analysis:** Based on the attainment status at the action location, the requirements of the General Conformity Rule are:

☐ applicable  
☒ not applicable

Total net direct and indirect emissions associated with the action were estimated through ACAM on a calendar-year basis for the start of the action through achieving “steady state” (i.e., net gain/loss upon action fully implemented) emissions. The ACAM analysis used the latest and most accurate emission estimation techniques available; all algorithms, emission factors, and methodologies used are described in detail in the USAF Air Emissions Guide for Air Force Stationary Sources, the USAF Air Emissions Guide for Air Force Mobile Sources, and the USAF Air Emissions Guide for Air Force Transitory Sources.

“Insignificance Indicators” were used in the analysis to provide an indication of the significance of potential impacts to air quality based on current ambient air quality relative to the National Ambient Air Quality Standards (NAAQSs). These insignificance indicators are the 250 ton/yr Prevention of Significant Deterioration (PSD) major source threshold for actions occurring in areas that are “Clearly Attainment” (i.e., not within 5% of any NAAQS) and the GCR de minimis values (25 ton/yr for lead and 100 ton/yr for all other criteria pollutants) for actions occurring in areas that are “Near Nonattainment” (i.e., within 5% of any NAAQS). These indicators do not define a significant impact; however, they do provide a threshold to identify actions that are insignificant. Any action with net emissions below the insignificance indicators for all criteria pollutant is considered so insignificant that the action will not cause or contribute to an exceedance on one or more NAAQSs. For further detail on insignificance indicators see chapter 4 of the Air Force Air Quality Environmental Impact Analysis Process (EIAP) Guide, Volume II - Advanced Assessments.

The action’s net emissions for every year through achieving steady state were compared against the Insignificance Indicator and are summarized below.

**Analysis Summary:**

**2023**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	2.779	250	No
NOx	15.600	250	No
CO	22.918	250	No
SOx	1.287	250	No
PM 10	2.111	250	No
PM 2.5	1.922	250	No
Pb	0.000	25	No
NH3	0.003	250	No
CO2e	3134.6		

**2024**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	2.779	250	No
NOx	15.600	250	No
CO	22.918	250	No
SOx	1.287	250	No
PM 10	2.111	250	No
PM 2.5	1.922	250	No
Pb	0.000	25	No
NH3	0.003	250	No

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<b>CO2e</b>	3134.6		
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**2025**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	2.779	250	No
NOx	15.600	250	No
CO	22.918	250	No
SOx	1.287	250	No
PM 10	2.111	250	No
PM 2.5	1.922	250	No
Pb	0.000	25	No
NH3	0.003	250	No
CO2e	3134.6		

**2026**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	2.779	250	No
NOx	15.600	250	No
CO	22.918	250	No
SOx	1.287	250	No
PM 10	2.111	250	No
PM 2.5	1.922	250	No
Pb	0.000	25	No
NH3	0.003	250	No
CO2e	3134.6		

**2027**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	2.779	250	No
NOx	15.600	250	No
CO	22.918	250	No
SOx	1.287	250	No
PM 10	2.111	250	No
PM 2.5	1.922	250	No
Pb	0.000	25	No
NH3	0.003	250	No
CO2e	3134.6		

**2028**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	2.779	250	No
NOx	15.600	250	No

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<b>CO</b>	22.918	250	No
<b>SOx</b>	1.287	250	No
<b>PM 10</b>	2.111	250	No
<b>PM 2.5</b>	1.922	250	No
<b>Pb</b>	0.000	25	No
<b>NH3</b>	0.003	250	No
<b>CO2e</b>	3134.6		

**2029**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	2.779	250	No
NOx	15.600	250	No
CO	22.918	250	No
SOx	1.287	250	No
PM 10	2.111	250	No
PM 2.5	1.922	250	No
Pb	0.000	25	No
NH3	0.003	250	No
CO2e	3134.6		

**2030**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	2.779	250	No
NOx	15.600	250	No
CO	22.918	250	No
SOx	1.287	250	No
PM 10	2.111	250	No
PM 2.5	1.922	250	No
Pb	0.000	25	No
NH3	0.003	250	No
CO2e	3134.6		

**2031**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	2.779	250	No
NOx	15.600	250	No
CO	22.918	250	No
SOx	1.287	250	No
PM 10	2.111	250	No
PM 2.5	1.922	250	No
Pb	0.000	25	No
NH3	0.003	250	No
CO2e	3134.6		

**2032**

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Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	2.779	250	No
NOx	15.600	250	No
CO	22.918	250	No
SOx	1.287	250	No
PM 10	2.111	250	No
PM 2.5	1.922	250	No
Pb	0.000	25	No
NH3	0.003	250	No
CO2e	3134.6		

**2033 - (Steady State)**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.000	250	No
NOx	0.000	250	No
CO	0.000	250	No
SOx	0.000	250	No
PM 10	0.000	250	No
PM 2.5	0.000	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	0.0		

None of estimated annual net emissions associated with this action are above the insignificance indicators, indicating no significant impact to air quality. Therefore, the action will not cause or contribute to an exceedance on one or more NAAQSs. No further air assessment is needed.



Radhika Narayanan, Environmental Scientist

11/17/2022  
DATE



**Northwest Florida Beaches International Airport Medium Scenario**

**1. General Information:** The Air Force's Air Conformity Applicability Model (ACAM) was used to perform an analysis to assess the potential air quality impact/s associated with the action in accordance with the Air Force Manual 32-7002, Environmental Compliance and Pollution Prevention; the Environmental Impact Analysis Process (EIAP, 32 CFR 989); and the General Conformity Rule (GCR, 40 CFR 93 Subpart B). This report provides a summary of the ACAM analysis.

**a. Action Location:**

**Base:** EGLIN AFB  
**State:** Florida  
**County(s):** Bay  
**Regulatory Area(s):** NOT IN A REGULATORY AREA

**b. Action Title:** Eglin AFB Combat Air Force Adversary Air Plus Up with F-22 Formal Training Unit, Florida - Alternative 4

**c. Project Number/s (if applicable):** N/A

**d. Projected Action Start Date:** 1 / 2023

**e. Action Description:**

In the previously analyzed EA, Eglin AFB or the civil airports proposed for use and military training SUA were analyzed for possible suitable use by contract ADAIR service provider to support Eglin AFB operations. The elements affecting the Eglin AFB or the civil airports proposed for use included contract ADAIR aircraft, facilities, maintenance, personnel, and sorties. The previously analyzed EA included an estimated 12 contractor aircraft to fly roughly 2,400 annual sorties to support the 33 FW and other units at Eglin AFB. Additional traffic patterns were anticipated to be no more than 5 percent of the annual sortie total, about 120 sorties for a total of 2,520 annual sorties from the selected airport.

This Proposed Action includes contracting an estimated four (4) additional contractor aircraft to fly roughly 600 additional annual ADAIR sorties to support the 33 FW and other units at Eglin AFB, potentially including the F-22 FTU. The proposed number of sorties varies depending on the alternative. Additional traffic patterns are anticipated to be no more than 5 percent of the annual sortie total, about 30 sorties for a total of 630 annual sorties from the selected airport. The analysis examines three separate emission scenarios: high, medium, and low. No significant construction is anticipated as a result of the action. If it is later determined construction is required at the airfield a separate environmental analysis would be completed as required.

**f. Point of Contact:**

**Name:** Radhika Narayanan  
**Title:** Environmental Scientist  
**Organization:** Versar, LLC  
**Email:** rnarayanan@versar.com  
**Phone Number:** n/a

**2. Air Impact Analysis:** Based on the attainment status at the action location, the requirements of the General Conformity Rule are:

☐ applicable  
☒ not applicable

**Supplemental EA for Eglin AFB Combat Air Forces Adversary Air Plus Up  
with F-22 Formal Training Unit  
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Total net direct and indirect emissions associated with the action were estimated through ACAM on a calendar-year basis for the start of the action through achieving “steady state” (i.e., net gain/loss upon action fully implemented) emissions. The ACAM analysis used the latest and most accurate emission estimation techniques available; all algorithms, emission factors, and methodologies used are described in detail in the USAF Air Emissions Guide for Air Force Stationary Sources, the USAF Air Emissions Guide for Air Force Mobile Sources, and the USAF Air Emissions Guide for Air Force Transitory Sources.

“Insignificance Indicators” were used in the analysis to provide an indication of the significance of potential impacts to air quality based on current ambient air quality relative to the National Ambient Air Quality Standards (NAAQSs). These insignificance indicators are the 250 ton/yr Prevention of Significant Deterioration (PSD) major source threshold for actions occurring in areas that are “Clearly Attainment” (i.e., not within 5% of any NAAQS) and the GCR de minimis values (25 ton/yr for lead and 100 ton/yr for all other criteria pollutants) for actions occurring in areas that are “Near Nonattainment” (i.e., within 5% of any NAAQS). These indicators do not define a significant impact; however, they do provide a threshold to identify actions that are insignificant. Any action with net emissions below the insignificance indicators for all criteria pollutant is considered so insignificant that the action will not cause or contribute to an exceedance on one or more NAAQSs. For further detail on insignificance indicators see chapter 4 of the Air Force Air Quality Environmental Impact Analysis Process (EIAP) Guide, Volume II - Advanced Assessments.

The action's net emissions for every year through achieving steady state were compared against the Insignificance Indicator and are summarized below.

**Analysis Summary:**

**2023**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	1.423	250	No
NOx	8.832	250	No
CO	11.865	250	No
SOx	0.820	250	No
PM 10	1.199	250	No
PM 2.5	0.802	250	No
Pb	0.000	25	No
NH3	0.003	250	No
CO2e	2029.2		

**2024**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	1.423	250	No
NOx	8.832	250	No
CO	11.865	250	No
SOx	0.820	250	No
PM 10	1.199	250	No
PM 2.5	0.802	250	No
Pb	0.000	25	No
NH3	0.003	250	No
CO2e	2029.2		

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**2025**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	1.423	250	No
NOx	8.832	250	No
CO	11.865	250	No
SOx	0.820	250	No
PM 10	1.199	250	No
PM 2.5	0.802	250	No
Pb	0.000	25	No
NH3	0.003	250	No
CO2e	2029.2		

**2026**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	1.423	250	No
NOx	8.832	250	No
CO	11.865	250	No
SOx	0.820	250	No
PM 10	1.199	250	No
PM 2.5	0.802	250	No
Pb	0.000	25	No
NH3	0.003	250	No
CO2e	2029.2		

**2027**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	1.423	250	No
NOx	8.832	250	No
CO	11.865	250	No
SOx	0.820	250	No
PM 10	1.199	250	No
PM 2.5	0.802	250	No
Pb	0.000	25	No
NH3	0.003	250	No
CO2e	2029.2		

**2028**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	1.423	250	No
NOx	8.832	250	No
CO	11.865	250	No

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<b>SOx</b>	0.820	250	No
<b>PM 10</b>	1.199	250	No
<b>PM 2.5</b>	0.802	250	No
<b>Pb</b>	0.000	25	No
<b>NH3</b>	0.003	250	No
<b>CO2e</b>	2029.2		

**2029**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	1.423	250	No
NOx	8.832	250	No
CO	11.865	250	No
SOx	0.820	250	No
PM 10	1.199	250	No
PM 2.5	0.802	250	No
Pb	0.000	25	No
NH3	0.003	250	No
CO2e	2029.2		

**2030**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	1.423	250	No
NOx	8.832	250	No
CO	11.865	250	No
SOx	0.820	250	No
PM 10	1.199	250	No
PM 2.5	0.802	250	No
Pb	0.000	25	No
NH3	0.003	250	No
CO2e	2029.2		

**2031**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	1.423	250	No
NOx	8.832	250	No
CO	11.865	250	No
SOx	0.820	250	No
PM 10	1.199	250	No
PM 2.5	0.802	250	No
Pb	0.000	25	No
NH3	0.003	250	No
CO2e	2029.2		

**2032**

Pollutant		INSIGNIFICANCE INDICATOR	
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with F-22 Formal Training Unit  
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	<b>Action Emissions (ton/yr)</b>	<b>Indicator (ton/yr)</b>	<b>Exceedance (Yes or No)</b>
<b>NOT IN A REGULATORY AREA</b>			
<b>VOC</b>	1.423	250	No
<b>NOx</b>	8.832	250	No
<b>CO</b>	11.865	250	No
<b>SOx</b>	0.820	250	No
<b>PM 10</b>	1.199	250	No
<b>PM 2.5</b>	0.802	250	No
<b>Pb</b>	0.000	25	No
<b>NH3</b>	0.003	250	No
<b>CO2e</b>	2029.2		

**2033 - (Steady State)**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.000	250	No
NOx	0.000	250	No
CO	0.000	250	No
SOx	0.000	250	No
PM 10	0.000	250	No
PM 2.5	0.000	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	0.0		

None of estimated annual net emissions associated with this action are above the insignificance indicators, indicating no significant impact to air quality. Therefore, the action will not cause or contribute to an exceedance on one or more NAAQSs. No further air assessment is needed.



Radhika Narayanan, Environmental Scientist

11/17/2022  
DATE



### **Northwest Florida Beaches International Airport Low Scenario**

**1. General Information:** The Air Force's Air Conformity Applicability Model (ACAM) was used to perform an analysis to assess the potential air quality impact/s associated with the action in accordance with the Air Force Manual 32-7002, Environmental Compliance and Pollution Prevention; the Environmental Impact Analysis Process (EIAP, 32 CFR 989); and the General Conformity Rule (GCR, 40 CFR 93 Subpart B). This report provides a summary of the ACAM analysis.

**a. Action Location:**

**Base:** EGLIN AFB  
**State:** Florida  
**County(s):** Bay  
**Regulatory Area(s):** NOT IN A REGULATORY AREA

**b. Action Title:** Eglin AFB Combat Air Force Adversary Air Plus Up with F-22 Formal Training Unit, Florida - Alternative 4

**c. Project Number/s (if applicable):** N/A

**d. Projected Action Start Date:** 1 / 2023

**e. Action Description:**

In the previously analyzed EA, Eglin AFB or the civil airports proposed for use and military training SUA were analyzed for possible suitable use by contract ADAIR service provider to support Eglin AFB operations. The elements affecting the Eglin AFB or the civil airports proposed for use included contract ADAIR aircraft, facilities, maintenance, personnel, and sorties. The previously analyzed EA included an estimated 12 contractor aircraft to fly roughly 2,400 annual sorties to support the 33 FW and other units at Eglin AFB. Additional traffic patterns were anticipated to be no more than 5 percent of the annual sortie total, about 120 sorties for a total of 2,520 annual sorties from the selected airport.

This Proposed Action includes contracting an estimated four (4) additional contractor aircraft to fly roughly 600 additional annual ADAIR sorties to support the 33 FW and other units at Eglin AFB, potentially including the F-22 FTU. The proposed number of sorties varies depending on the alternative. Additional traffic patterns are anticipated to be no more than 5 percent of the annual sortie total, about 30 sorties for a total of 630 annual sorties from the selected airport. The analysis examines three separate emission scenarios: high, medium, and low. No significant construction is anticipated as a result of the action. If it is later determined construction is required at the airfield a separate environmental analysis would be completed as required.

**f. Point of Contact:**

**Name:** Radhika Narayanan  
**Title:** Environmental Scientist  
**Organization:** Versar, LLC  
**Email:** rnarayanan@versar.com  
**Phone Number:** n/a

**2. Air Impact Analysis:** Based on the attainment status at the action location, the requirements of the General Conformity Rule are:

☐ applicable  
☒ not applicable

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with F-22 Formal Training Unit  
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Total net direct and indirect emissions associated with the action were estimated through ACAM on a calendar-year basis for the start of the action through achieving “steady state” (i.e., net gain/loss upon action fully implemented) emissions. The ACAM analysis used the latest and most accurate emission estimation techniques available; all algorithms, emission factors, and methodologies used are described in detail in the USAF Air Emissions Guide for Air Force Stationary Sources, the USAF Air Emissions Guide for Air Force Mobile Sources, and the USAF Air Emissions Guide for Air Force Transitory Sources.

“Insignificance Indicators” were used in the analysis to provide an indication of the significance of potential impacts to air quality based on current ambient air quality relative to the National Ambient Air Quality Standards (NAAQSs). These insignificance indicators are the 250 ton/yr Prevention of Significant Deterioration (PSD) major source threshold for actions occurring in areas that are “Clearly Attainment” (i.e., not within 5% of any NAAQS) and the GCR de minimis values (25 ton/yr for lead and 100 ton/yr for all other criteria pollutants) for actions occurring in areas that are “Near Nonattainment” (i.e., within 5% of any NAAQS). These indicators do not define a significant impact; however, they do provide a threshold to identify actions that are insignificant. Any action with net emissions below the insignificance indicators for all criteria pollutant is considered so insignificant that the action will not cause or contribute to an exceedance on one or more NAAQSs. For further detail on insignificance indicators see chapter 4 of the Air Force Air Quality Environmental Impact Analysis Process (EIAP) Guide, Volume II - Advanced Assessments.

The action's net emissions for every year through achieving steady state were compared against the Insignificance Indicator and are summarized below.

**Analysis Summary:**

**2023**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	7.669	250	No
NOx	3.714	250	No
CO	40.761	250	No
SOx	0.591	250	No
PM 10	0.318	250	No
PM 2.5	0.309	250	No
Pb	0.000	25	No
NH3	0.003	250	No
CO2e	1306.6		

**2024**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	7.669	250	No
NOx	3.714	250	No
CO	40.761	250	No
SOx	0.591	250	No
PM 10	0.318	250	No
PM 2.5	0.309	250	No
Pb	0.000	25	No
NH3	0.003	250	No
CO2e	1306.6		

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**2025**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	7.669	250	No
NOx	3.714	250	No
CO	40.761	250	No
SOx	0.591	250	No
PM 10	0.318	250	No
PM 2.5	0.309	250	No
Pb	0.000	25	No
NH3	0.003	250	No
CO2e	1306.6		

**2026**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	7.669	250	No
NOx	3.714	250	No
CO	40.761	250	No
SOx	0.591	250	No
PM 10	0.318	250	No
PM 2.5	0.309	250	No
Pb	0.000	25	No
NH3	0.003	250	No
CO2e	1306.6		

**2027**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	7.669	250	No
NOx	3.714	250	No
CO	40.761	250	No
SOx	0.591	250	No
PM 10	0.318	250	No
PM 2.5	0.309	250	No
Pb	0.000	25	No
NH3	0.003	250	No
CO2e	1306.6		

**2028**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	7.669	250	No
NOx	3.714	250	No
CO	40.761	250	No

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<b>SOx</b>	0.591	250	No
<b>PM 10</b>	0.318	250	No
<b>PM 2.5</b>	0.309	250	No
<b>Pb</b>	0.000	25	No
<b>NH3</b>	0.003	250	No
<b>CO2e</b>	1306.6		

**2029**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	7.669	250	No
NOx	3.714	250	No
CO	40.761	250	No
SOx	0.591	250	No
PM 10	0.318	250	No
PM 2.5	0.309	250	No
Pb	0.000	25	No
NH3	0.003	250	No
CO2e	1306.6		

**2030**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	7.669	250	No
NOx	3.714	250	No
CO	40.761	250	No
SOx	0.591	250	No
PM 10	0.318	250	No
PM 2.5	0.309	250	No
Pb	0.000	25	No
NH3	0.003	250	No
CO2e	1306.6		

**2031**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	7.669	250	No
NOx	3.714	250	No
CO	40.761	250	No
SOx	0.591	250	No
PM 10	0.318	250	No
PM 2.5	0.309	250	No
Pb	0.000	25	No
NH3	0.003	250	No
CO2e	1306.6		

**2032**

Pollutant		INSIGNIFICANCE INDICATOR	
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with F-22 Formal Training Unit  
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	<b>Action Emissions (ton/yr)</b>	<b>Indicator (ton/yr)</b>	<b>Exceedance (Yes or No)</b>
NOT IN A REGULATORY AREA			
<b>VOC</b>	7.669	250	No
<b>NOx</b>	3.714	250	No
<b>CO</b>	40.761	250	No
<b>SOx</b>	0.591	250	No
<b>PM 10</b>	0.318	250	No
<b>PM 2.5</b>	0.309	250	No
<b>Pb</b>	0.000	25	No
<b>NH3</b>	0.003	250	No
<b>CO2e</b>	1306.6		

**2033 - (Steady State)**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.000	250	No
NOx	0.000	250	No
CO	0.000	250	No
SOx	0.000	250	No
PM 10	0.000	250	No
PM 2.5	0.000	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	0.0		

None of estimated annual net emissions associated with this action are above the insignificance indicators, indicating no significant impact to air quality. Therefore, the action will not cause or contribute to an exceedance on one or more NAAQSs. No further air assessment is needed.



Radhika Narayanan, Environmental Scientist

11/17/2022  
DATE



**C.3.8      *Summary Air Conformity Applicability Model Report Record of Air Analysis for  
Warning Area W-151 (Alternative 1)***

**W-151 High Scenario**

**1. General Information:** The Air Force's Air Conformity Applicability Model (ACAM) was used to perform an analysis to assess the potential air quality impact/s associated with the action in accordance with the Air Force Manual 32-7002, Environmental Compliance and Pollution Prevention; the Environmental Impact Analysis Process (EIAP, 32 CFR 989); and the General Conformity Rule (GCR, 40 CFR 93 Subpart B). This report provides a summary of the ACAM analysis.

**a. Action Location:**

**Base:** EGLIN AFB  
**State:** Florida  
**County(s):** Bay  
**Regulatory Area(s):** NOT IN A REGULATORY AREA

**b. Action Title:** Eglin AFB Combat Air Force Adversary Air Plus Up with F-22 Formal Training Unit, Florida - Alternative 1

**c. Project Number/s (if applicable):** N/A

**d. Projected Action Start Date:** 1 / 2023

**e. Action Description:**

In the previously analyzed EA, Eglin AFB or the civil airports proposed for use and military training SUA were analyzed for possible suitable use by contract ADAIR service provider to support Eglin AFB operations. The elements affecting the Eglin AFB or the civil airports proposed for use included contract ADAIR aircraft, facilities, maintenance, personnel, and sorties. The previously analyzed EA included an estimated 12 contractor aircraft to fly roughly 2,400 annual sorties to support the 33 FW and other units at Eglin AFB. Additional traffic patterns were anticipated to be no more than 5 percent of the annual sortie total, about 120 sorties for a total of 2,520 annual sorties from the selected airport.

This Proposed Action includes contracting an estimated four (4) additional contractor aircraft to fly roughly 600 additional annual ADAIR sorties to support the 33 FW and other units at Eglin AFB, potentially including the F-22 FTU. The proposed number of sorties varies depending on the alternative. Additional traffic patterns are anticipated to be no more than 5 percent of the annual sortie total, about 30 sorties for a total of 630 annual sorties from the selected airport. The analysis examines three separate emission scenarios: high, medium, and low. No significant construction is anticipated as a result of the action. If it is later determined construction is required at the airfield a separate environmental analysis would be completed as required.

**f. Point of Contact:**

**Name:** Radhika Narayanan  
**Title:** Environmental Scientist  
**Organization:** Versar, LLC  
**Email:** rnarayanan@versar.com  
**Phone Number:** n/a

**2. Air Impact Analysis:** Based on the attainment status at the action location, the requirements of the General Conformity Rule are:

☐ applicable  
☒ not applicable

Total net direct and indirect emissions associated with the action were estimated through ACAM on a calendar-year basis for the start of the action through achieving “steady state” (i.e., net gain/loss upon action fully implemented) emissions. The ACAM analysis used the latest and most accurate emission estimation techniques available; all algorithms, emission factors, and methodologies used are described in detail in the USAF Air Emissions Guide for Air Force Stationary Sources, the USAF Air Emissions Guide for Air Force Mobile Sources, and the USAF Air Emissions Guide for Air Force Transitory Sources.

“Insignificance Indicators” were used in the analysis to provide an indication of the significance of potential impacts to air quality based on current ambient air quality relative to the National Ambient Air Quality Standards (NAAQSs). These insignificance indicators are the 250 ton/yr Prevention of Significant Deterioration (PSD) major source threshold for actions occurring in areas that are “Clearly Attainment” (i.e., not within 5% of any NAAQS) and the GCR de minimis values (25 ton/yr for lead and 100 ton/yr for all other criteria pollutants) for actions occurring in areas that are “Near Nonattainment” (i.e., within 5% of any NAAQS). These indicators do not define a significant impact; however, they do provide a threshold to identify actions that are insignificant. Any action with net emissions below the insignificance indicators for all criteria pollutant is considered so insignificant that the action will not cause or contribute to an exceedance on one or more NAAQSs. For further detail on insignificance indicators see chapter 4 of the Air Force Air Quality Environmental Impact Analysis Process (EIAP) Guide, Volume II - Advanced Assessments.

The action’s net emissions for every year through achieving steady state were compared against the Insignificance Indicator and are summarized below.

**Analysis Summary:**

**2023**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.160	250	No
NOx	30.559	250	No
CO	0.812	250	No
SOx	1.207	250	No
PM 10	0.812	250	No
PM 2.5	0.731	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	3648.2		

**2024**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.160	250	No
NOx	30.559	250	No
CO	0.812	250	No
SOx	1.207	250	No
PM 10	0.812	250	No
PM 2.5	0.731	250	No
Pb	0.000	25	No
NH3	0.000	250	No

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<b>CO2e</b>	3648.2		
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**2025**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.160	250	No
NOx	30.559	250	No
CO	0.812	250	No
SOx	1.207	250	No
PM 10	0.812	250	No
PM 2.5	0.731	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	3648.2		

**2026**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.160	250	No
NOx	30.559	250	No
CO	0.812	250	No
SOx	1.207	250	No
PM 10	0.812	250	No
PM 2.5	0.731	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	3648.2		

**2027**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.160	250	No
NOx	30.559	250	No
CO	0.812	250	No
SOx	1.207	250	No
PM 10	0.812	250	No
PM 2.5	0.731	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	3648.2		

**2028**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.160	250	No
NOx	30.559	250	No

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<b>CO</b>	0.812	250	No
<b>SOx</b>	1.207	250	No
<b>PM 10</b>	0.812	250	No
<b>PM 2.5</b>	0.731	250	No
<b>Pb</b>	0.000	25	No
<b>NH3</b>	0.000	250	No
<b>CO2e</b>	3648.2		

**2029**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.160	250	No
NOx	30.559	250	No
CO	0.812	250	No
SOx	1.207	250	No
PM 10	0.812	250	No
PM 2.5	0.731	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	3648.2		

**2030**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.160	250	No
NOx	30.559	250	No
CO	0.812	250	No
SOx	1.207	250	No
PM 10	0.812	250	No
PM 2.5	0.731	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	3648.2		

**2031**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.160	250	No
NOx	30.559	250	No
CO	0.812	250	No
SOx	1.207	250	No
PM 10	0.812	250	No
PM 2.5	0.731	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	3648.2		

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Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.160	250	No
NOx	30.559	250	No
CO	0.812	250	No
SOx	1.207	250	No
PM 10	0.812	250	No
PM 2.5	0.731	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	3648.2		

**2033 - (Steady State)**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.000	250	No
NOx	0.000	250	No
CO	0.000	250	No
SOx	0.000	250	No
PM 10	0.000	250	No
PM 2.5	0.000	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	0.0		

None of estimated annual net emissions associated with this action are above the insignificance indicators, indicating no significant impact to air quality. Therefore, the action will not cause or contribute to an exceedance on one or more NAAQSs. No further air assessment is needed.



Radhika Narayanan, Environmental Scientist

11/17/2022  
DATE



## **W-151 Medium Scenario**

**1. General Information:** The Air Force's Air Conformity Applicability Model (ACAM) was used to perform an analysis to assess the potential air quality impact/s associated with the action in accordance with the Air Force Manual 32-7002, Environmental Compliance and Pollution Prevention; the Environmental Impact Analysis Process (EIAP, 32 CFR 989); and the General Conformity Rule (GCR, 40 CFR 93 Subpart B). This report provides a summary of the ACAM analysis.

**a. Action Location:**

**Base:** EGLIN AFB  
**State:** Florida  
**County(s):** Bay  
**Regulatory Area(s):** NOT IN A REGULATORY AREA

**b. Action Title:** Eglin AFB Combat Air Force Adversary Air Plus Up with F-22 Formal Training Unit, Florida - Alternative 1

**c. Project Number/s (if applicable):** N/A

**d. Projected Action Start Date:** 1 / 2023

**e. Action Description:**

In the previously analyzed EA, Eglin AFB or the civil airports proposed for use and military training SUA were analyzed for possible suitable use by contract ADAIR service provider to support Eglin AFB operations. The elements affecting the Eglin AFB or the civil airports proposed for use included contract ADAIR aircraft, facilities, maintenance, personnel, and sorties. The previously analyzed EA included an estimated 12 contractor aircraft to fly roughly 2,400 annual sorties to support the 33 FW and other units at Eglin AFB. Additional traffic patterns were anticipated to be no more than 5 percent of the annual sortie total, about 120 sorties for a total of 2,520 annual sorties from the selected airport.

This Proposed Action includes contracting an estimated four (4) additional contractor aircraft to fly roughly 600 additional annual ADAIR sorties to support the 33 FW and other units at Eglin AFB, potentially including the F-22 FTU. The proposed number of sorties varies depending on the alternative. Additional traffic patterns are anticipated to be no more than 5 percent of the annual sortie total, about 30 sorties for a total of 630 annual sorties from the selected airport. The analysis examines three separate emission scenarios: high, medium, and low. No significant construction is anticipated as a result of the action. If it is later determined construction is required at the airfield a separate environmental analysis would be completed as required.

**f. Point of Contact:**

**Name:** Radhika Narayanan  
**Title:** Environmental Scientist  
**Organization:** Versar, LLC  
**Email:** rnarayanan@versar.com  
**Phone Number:** n/a

**2. Air Impact Analysis:** Based on the attainment status at the action location, the requirements of the General Conformity Rule are:

☐ applicable  
☒ not applicable

Total net direct and indirect emissions associated with the action were estimated through ACAM on a calendar-year basis for the start of the action through achieving "steady state" (i.e., net gain/loss upon action fully implemented) emissions. The ACAM analysis used the latest and most accurate emission

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estimation techniques available; all algorithms, emission factors, and methodologies used are described in detail in the USAF Air Emissions Guide for Air Force Stationary Sources, the USAF Air Emissions Guide for Air Force Mobile Sources, and the USAF Air Emissions Guide for Air Force Transitory Sources.

“Insignificance Indicators” were used in the analysis to provide an indication of the significance of potential impacts to air quality based on current ambient air quality relative to the National Ambient Air Quality Standards (NAAQSs). These insignificance indicators are the 250 ton/yr Prevention of Significant Deterioration (PSD) major source threshold for actions occurring in areas that are “Clearly Attainment” (i.e., not within 5% of any NAAQS) and the GCR de minimis values (25 ton/yr for lead and 100 ton/yr for all other criteria pollutants) for actions occurring in areas that are “Near Nonattainment” (i.e., within 5% of any NAAQS). These indicators do not define a significant impact; however, they do provide a threshold to identify actions that are insignificant. Any action with net emissions below the insignificance indicators for all criteria pollutant is considered so insignificant that the action will not cause or contribute to an exceedance on one or more NAAQSs. For further detail on insignificance indicators see chapter 4 of the Air Force Air Quality Environmental Impact Analysis Process (EIAP) Guide, Volume II - Advanced Assessments.

The action’s net emissions for every year through achieving steady state were compared against the Insignificance Indicator and are summarized below.

**Analysis Summary:**

**2023**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.025	250	No
NOx	9.105	250	No
CO	1.867	250	No
SOx	0.576	250	No
PM 10	0.310	250	No
PM 2.5	0.221	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	1740.3		

**2024**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.025	250	No
NOx	9.105	250	No
CO	1.867	250	No
SOx	0.576	250	No
PM 10	0.310	250	No
PM 2.5	0.221	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	1740.3		

**2025**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			

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<b>VOC</b>	0.025	250	No
<b>NOx</b>	9.105	250	No
<b>CO</b>	1.867	250	No
<b>SOx</b>	0.576	250	No
<b>PM 10</b>	0.310	250	No
<b>PM 2.5</b>	0.221	250	No
<b>Pb</b>	0.000	25	No
<b>NH3</b>	0.000	250	No
<b>CO2e</b>	1740.3		

**2026**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.025	250	No
NOx	9.105	250	No
CO	1.867	250	No
SOx	0.576	250	No
PM 10	0.310	250	No
PM 2.5	0.221	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	1740.3		

**2027**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.025	250	No
NOx	9.105	250	No
CO	1.867	250	No
SOx	0.576	250	No
PM 10	0.310	250	No
PM 2.5	0.221	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	1740.3		

**2028**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.025	250	No
NOx	9.105	250	No
CO	1.867	250	No
SOx	0.576	250	No
PM 10	0.310	250	No
PM 2.5	0.221	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	1740.3		

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**2029**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.025	250	No
NOx	9.105	250	No
CO	1.867	250	No
SOx	0.576	250	No
PM 10	0.310	250	No
PM 2.5	0.221	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	1740.3		

**2030**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.025	250	No
NOx	9.105	250	No
CO	1.867	250	No
SOx	0.576	250	No
PM 10	0.310	250	No
PM 2.5	0.221	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	1740.3		

**2031**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.025	250	No
NOx	9.105	250	No
CO	1.867	250	No
SOx	0.576	250	No
PM 10	0.310	250	No
PM 2.5	0.221	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	1740.3		

**2032**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.025	250	No
NOx	9.105	250	No
CO	1.867	250	No
SOx	0.576	250	No

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<b>PM 10</b>	0.310	250	No
<b>PM 2.5</b>	0.221	250	No
<b>Pb</b>	0.000	25	No
<b>NH3</b>	0.000	250	No
<b>CO2e</b>	1740.3		

**2033 - (Steady State)**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.000	250	No
NOx	0.000	250	No
CO	0.000	250	No
SOx	0.000	250	No
PM 10	0.000	250	No
PM 2.5	0.000	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	0.0		

None of estimated annual net emissions associated with this action are above the insignificance indicators, indicating no significant impact to air quality. Therefore, the action will not cause or contribute to an exceedance on one or more NAAQSs. No further air assessment is needed.



Radhika Narayanan, Environmental Scientist

11/17/2022  
DATE



## **W-151 Low Scenario**

**1. General Information:** The Air Force's Air Conformity Applicability Model (ACAM) was used to perform an analysis to assess the potential air quality impact/s associated with the action in accordance with the Air Force Manual 32-7002, Environmental Compliance and Pollution Prevention; the Environmental Impact Analysis Process (EIAP, 32 CFR 989); and the General Conformity Rule (GCR, 40 CFR 93 Subpart B). This report provides a summary of the ACAM analysis.

**a. Action Location:**

**Base:** EGLIN AFB  
**State:** Florida  
**County(s):** Bay  
**Regulatory Area(s):** NOT IN A REGULATORY AREA

**b. Action Title:** Eglin AFB Combat Air Force Adversary Air Plus Up with F-22 Formal Training Unit, Florida - Alternative 1

**c. Project Number/s (if applicable):** N/A

**d. Projected Action Start Date:** 1 / 2023

**e. Action Description:**

In the previously analyzed EA, Eglin AFB or the civil airports proposed for use and military training SUA were analyzed for possible suitable use by contract ADAIR service provider to support Eglin AFB operations. The elements affecting the Eglin AFB or the civil airports proposed for use included contract ADAIR aircraft, facilities, maintenance, personnel, and sorties. The previously analyzed EA included an estimated 12 contractor aircraft to fly roughly 2,400 annual sorties to support the 33 FW and other units at Eglin AFB. Additional traffic patterns were anticipated to be no more than 5 percent of the annual sortie total, about 120 sorties for a total of 2,520 annual sorties from the selected airport.

This Proposed Action includes contracting an estimated four (4) additional contractor aircraft to fly roughly 600 additional annual ADAIR sorties to support the 33 FW and other units at Eglin AFB, potentially including the F-22 FTU. The proposed number of sorties varies depending on the alternative. Additional traffic patterns are anticipated to be no more than 5 percent of the annual sortie total, about 30 sorties for a total of 630 annual sorties from the selected airport. The analysis examines three separate emission scenarios: high, medium, and low. No significant construction is anticipated as a result of the action. If it is later determined construction is required at the airfield a separate environmental analysis would be completed as required.

**f. Point of Contact:**

**Name:** Radhika Narayanan  
**Title:** Environmental Scientist  
**Organization:** Versar, LLC  
**Email:** rnarayanan@versar.com  
**Phone Number:** n/a

**2. Air Impact Analysis:** Based on the attainment status at the action location, the requirements of the General Conformity Rule are:

☐ applicable  
☒ not applicable

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Total net direct and indirect emissions associated with the action were estimated through ACAM on a calendar-year basis for the start of the action through achieving “steady state” (i.e., net gain/loss upon action fully implemented) emissions. The ACAM analysis used the latest and most accurate emission estimation techniques available; all algorithms, emission factors, and methodologies used are described in detail in the USAF Air Emissions Guide for Air Force Stationary Sources, the USAF Air Emissions Guide for Air Force Mobile Sources, and the USAF Air Emissions Guide for Air Force Transitory Sources.

“Insignificance Indicators” were used in the analysis to provide an indication of the significance of potential impacts to air quality based on current ambient air quality relative to the National Ambient Air Quality Standards (NAAQSs). These insignificance indicators are the 250 ton/yr Prevention of Significant Deterioration (PSD) major source threshold for actions occurring in areas that are “Clearly Attainment” (i.e., not within 5% of any NAAQS) and the GCR de minimis values (25 ton/yr for lead and 100 ton/yr for all other criteria pollutants) for actions occurring in areas that are “Near Nonattainment” (i.e., within 5% of any NAAQS). These indicators do not define a significant impact; however, they do provide a threshold to identify actions that are insignificant. Any action with net emissions below the insignificance indicators for all criteria pollutant is considered so insignificant that the action will not cause or contribute to an exceedance on one or more NAAQSs. For further detail on insignificance indicators see chapter 4 of the Air Force Air Quality Environmental Impact Analysis Process (EIAP) Guide, Volume II - Advanced Assessments.

The action's net emissions for every year through achieving steady state were compared against the Insignificance Indicator and are summarized below.

**Analysis Summary:**

**2023**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	1.313	250	No
NOx	0.750	250	No
CO	14.025	250	No
SOx	0.349	250	No
PM 10	0.004	250	No
PM 2.5	0.003	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	1054.8		

**2024**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	1.313	250	No
NOx	0.750	250	No
CO	14.025	250	No
SOx	0.349	250	No
PM 10	0.004	250	No
PM 2.5	0.003	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	1054.8		

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**2025**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	1.313	250	No
NOx	0.750	250	No
CO	14.025	250	No
SOx	0.349	250	No
PM 10	0.004	250	No
PM 2.5	0.003	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	1054.8		

**2026**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	1.313	250	No
NOx	0.750	250	No
CO	14.025	250	No
SOx	0.349	250	No
PM 10	0.004	250	No
PM 2.5	0.003	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	1054.8		

**2027**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	1.313	250	No
NOx	0.750	250	No
CO	14.025	250	No
SOx	0.349	250	No
PM 10	0.004	250	No
PM 2.5	0.003	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	1054.8		

**2028**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	1.313	250	No
NOx	0.750	250	No
CO	14.025	250	No

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<b>SOx</b>	0.349	250	No
<b>PM 10</b>	0.004	250	No
<b>PM 2.5</b>	0.003	250	No
<b>Pb</b>	0.000	25	No
<b>NH3</b>	0.000	250	No
<b>CO2e</b>	1054.8		

**2029**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	1.313	250	No
NOx	0.750	250	No
CO	14.025	250	No
SOx	0.349	250	No
PM 10	0.004	250	No
PM 2.5	0.003	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	1054.8		

**2030**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	1.313	250	No
NOx	0.750	250	No
CO	14.025	250	No
SOx	0.349	250	No
PM 10	0.004	250	No
PM 2.5	0.003	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	1054.8		

**2031**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	1.313	250	No
NOx	0.750	250	No
CO	14.025	250	No
SOx	0.349	250	No
PM 10	0.004	250	No
PM 2.5	0.003	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	1054.8		

**2032**

Pollutant		INSIGNIFICANCE INDICATOR	
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	Action Emissions (ton/yr)	Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	1.313	250	No
NOx	0.750	250	No
CO	14.025	250	No
SOx	0.349	250	No
PM 10	0.004	250	No
PM 2.5	0.003	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	1054.8		

**2033 - (Steady State)**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.000	250	No
NOx	0.000	250	No
CO	0.000	250	No
SOx	0.000	250	No
PM 10	0.000	250	No
PM 2.5	0.000	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	0.0		

None of estimated annual net emissions associated with this action are above the insignificance indicators, indicating no significant impact to air quality. Therefore, the action will not cause or contribute to an exceedance on one or more NAAQSs. No further air assessment is needed.



Radhika Narayanan, Environmental Scientist

11/17/2022  
DATE



**C.3.9      *Summary Air Conformity Applicability Model Report Record of Air Analysis for  
Warning Area W-470 (Alternative 1)***

**W-470 High Scenario**

**1. General Information:** The Air Force's Air Conformity Applicability Model (ACAM) was used to perform an analysis to assess the potential air quality impact/s associated with the action in accordance with the Air Force Manual 32-7002, Environmental Compliance and Pollution Prevention; the Environmental Impact Analysis Process (EIAP, 32 CFR 989); and the General Conformity Rule (GCR, 40 CFR 93 Subpart B). This report provides a summary of the ACAM analysis.

**a. Action Location:**

**Base:** EGLIN AFB  
**State:** Florida  
**County(s):** Franklin  
**Regulatory Area(s):** NOT IN A REGULATORY AREA

**b. Action Title:** Eglin AFB Combat Air Force Adversary Air Plus Up with F-22 Formal Training Unit, Florida - Alternative 1

**c. Project Number/s (if applicable):** N/A

**d. Projected Action Start Date:** 1 / 2023

**e. Action Description:**

In the previously analyzed EA, Eglin AFB or the civil airports proposed for use and military training SUA were analyzed for possible suitable use by contract ADAIR service provider to support Eglin AFB operations. The elements affecting the Eglin AFB or the civil airports proposed for use included contract ADAIR aircraft, facilities, maintenance, personnel, and sorties. The previously analyzed EA included an estimated 12 contractor aircraft to fly roughly 2,400 annual sorties to support the 33 FW and other units at Eglin AFB. Additional traffic patterns were anticipated to be no more than 5 percent of the annual sortie total, about 120 sorties for a total of 2,520 annual sorties from the selected airport.

This Proposed Action includes contracting an estimated four (4) additional contractor aircraft to fly roughly 600 additional annual ADAIR sorties to support the 33 FW and other units at Eglin AFB, potentially including the F-22 FTU. The proposed number of sorties varies depending on the alternative. Additional traffic patterns are anticipated to be no more than 5 percent of the annual sortie total, about 30 sorties for a total of 630 annual sorties from the selected airport. The analysis examines three separate emission scenarios: high, medium, and low. No significant construction is anticipated as a result of the action. If it is later determined construction is required at the airfield a separate environmental analysis would be completed as required.

**f. Point of Contact:**

**Name:** Radhika Narayanan  
**Title:** Environmental Scientist  
**Organization:** Versar, LLC  
**Email:** rnarayanan@versar.com  
**Phone Number:** n/a

**2. Air Impact Analysis:** Based on the attainment status at the action location, the requirements of the General Conformity Rule are:

☐ applicable  
☒ not applicable

Total net direct and indirect emissions associated with the action were estimated through ACAM on a calendar-year basis for the start of the action through achieving “steady state” (i.e., net gain/loss upon action fully implemented) emissions. The ACAM analysis used the latest and most accurate emission estimation techniques available; all algorithms, emission factors, and methodologies used are described in detail in the USAF Air Emissions Guide for Air Force Stationary Sources, the USAF Air Emissions Guide for Air Force Mobile Sources, and the USAF Air Emissions Guide for Air Force Transitory Sources.

“Insignificance Indicators” were used in the analysis to provide an indication of the significance of potential impacts to air quality based on current ambient air quality relative to the National Ambient Air Quality Standards (NAAQSs). These insignificance indicators are the 250 ton/yr Prevention of Significant Deterioration (PSD) major source threshold for actions occurring in areas that are “Clearly Attainment” (i.e., not within 5% of any NAAQS) and the GCR de minimis values (25 ton/yr for lead and 100 ton/yr for all other criteria pollutants) for actions occurring in areas that are “Near Nonattainment” (i.e., within 5% of any NAAQS). These indicators do not define a significant impact; however, they do provide a threshold to identify actions that are insignificant. Any action with net emissions below the insignificance indicators for all criteria pollutant is considered so insignificant that the action will not cause or contribute to an exceedance on one or more NAAQSs. For further detail on insignificance indicators see chapter 4 of the Air Force Air Quality Environmental Impact Analysis Process (EIAP) Guide, Volume II - Advanced Assessments.

The action’s net emissions for every year through achieving steady state were compared against the Insignificance Indicator and are summarized below.

**Analysis Summary:**

**2023**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.006	250	No
NOx	1.182	250	No
CO	0.031	250	No
SOx	0.047	250	No
PM 10	0.031	250	No
PM 2.5	0.028	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	141.1		

**2024**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.006	250	No
NOx	1.182	250	No
CO	0.031	250	No
SOx	0.047	250	No
PM 10	0.031	250	No
PM 2.5	0.028	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	141.1		

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**2025**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.006	250	No
NOx	1.182	250	No
CO	0.031	250	No
SOx	0.047	250	No
PM 10	0.031	250	No
PM 2.5	0.028	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	141.1		

**2026**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.006	250	No
NOx	1.182	250	No
CO	0.031	250	No
SOx	0.047	250	No
PM 10	0.031	250	No
PM 2.5	0.028	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	141.1		

**2027**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.006	250	No
NOx	1.182	250	No
CO	0.031	250	No
SOx	0.047	250	No
PM 10	0.031	250	No
PM 2.5	0.028	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	141.1		

**2028**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.006	250	No
NOx	1.182	250	No
CO	0.031	250	No

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<b>SOx</b>	0.047	250	No
<b>PM 10</b>	0.031	250	No
<b>PM 2.5</b>	0.028	250	No
<b>Pb</b>	0.000	25	No
<b>NH3</b>	0.000	250	No
<b>CO2e</b>	141.1		

**2029**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.006	250	No
NOx	1.182	250	No
CO	0.031	250	No
SOx	0.047	250	No
PM 10	0.031	250	No
PM 2.5	0.028	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	141.1		

**2030**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.006	250	No
NOx	1.182	250	No
CO	0.031	250	No
SOx	0.047	250	No
PM 10	0.031	250	No
PM 2.5	0.028	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	141.1		

**2031**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.006	250	No
NOx	1.182	250	No
CO	0.031	250	No
SOx	0.047	250	No
PM 10	0.031	250	No
PM 2.5	0.028	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	141.1		

**2032**

Pollutant		INSIGNIFICANCE INDICATOR	
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	<b>Action Emissions (ton/yr)</b>	<b>Indicator (ton/yr)</b>	<b>Exceedance (Yes or No)</b>
<b>NOT IN A REGULATORY AREA</b>			
<b>VOC</b>	0.006	250	No
<b>NOx</b>	1.182	250	No
<b>CO</b>	0.031	250	No
<b>SOx</b>	0.047	250	No
<b>PM 10</b>	0.031	250	No
<b>PM 2.5</b>	0.028	250	No
<b>Pb</b>	0.000	25	No
<b>NH3</b>	0.000	250	No
<b>CO2e</b>	141.1		

**2033 - (Steady State)**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.000	250	No
NOx	0.000	250	No
CO	0.000	250	No
SOx	0.000	250	No
PM 10	0.000	250	No
PM 2.5	0.000	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	0.0		

None of estimated annual net emissions associated with this action are above the insignificance indicators, indicating no significant impact to air quality. Therefore, the action will not cause or contribute to an exceedance on one or more NAAQSs. No further air assessment is needed.



Radhika Narayanan, Environmental Scientist

11/17/2022  
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**W-470 Medium Scenario**

**1. General Information:** The Air Force's Air Conformity Applicability Model (ACAM) was used to perform an analysis to assess the potential air quality impact/s associated with the action in accordance with the Air Force Manual 32-7002, Environmental Compliance and Pollution Prevention; the Environmental Impact Analysis Process (EIAP, 32 CFR 989); and the General Conformity Rule (GCR, 40 CFR 93 Subpart B). This report provides a summary of the ACAM analysis.

**a. Action Location:**

**Base:** EGLIN AFB  
**State:** Florida  
**County(s):** Franklin  
**Regulatory Area(s):** NOT IN A REGULATORY AREA

**b. Action Title:** Eglin AFB Combat Air Force Adversary Air Plus Up with F-22 Formal Training Unit, Florida - Alternative 1

**c. Project Number/s (if applicable):** N/A

**d. Projected Action Start Date:** 1 / 2023

**e. Action Description:**

In the previously analyzed EA, Eglin AFB or the civil airports proposed for use and military training SUA were analyzed for possible suitable use by contract ADAIR service provider to support Eglin AFB operations. The elements affecting the Eglin AFB or the civil airports proposed for use included contract ADAIR aircraft, facilities, maintenance, personnel, and sorties. The previously analyzed EA included an estimated 12 contractor aircraft to fly roughly 2,400 annual sorties to support the 33 FW and other units at Eglin AFB. Additional traffic patterns were anticipated to be no more than 5 percent of the annual sortie total, about 120 sorties for a total of 2,520 annual sorties from the selected airport.

This Proposed Action includes contracting an estimated four (4) additional contractor aircraft to fly roughly 600 additional annual ADAIR sorties to support the 33 FW and other units at Eglin AFB, potentially including the F-22 FTU. The proposed number of sorties varies depending on the alternative. Additional traffic patterns are anticipated to be no more than 5 percent of the annual sortie total, about 30 sorties for a total of 630 annual sorties from the selected airport. The analysis examines three separate emission scenarios: high, medium, and low. No significant construction is anticipated as a result of the action. If it is later determined construction is required at the airfield a separate environmental analysis would be completed as required.

**f. Point of Contact:**

**Name:** Radhika Narayanan  
**Title:** Environmental Scientist  
**Organization:** Versar, LLC  
**Email:** rnarayanan@versar.com  
**Phone Number:** n/a

**2. Air Impact Analysis:** Based on the attainment status at the action location, the requirements of the General Conformity Rule are:

☐ applicable  
☒ not applicable

Total net direct and indirect emissions associated with the action were estimated through ACAM on a calendar-year basis for the start of the action through achieving "steady state" (i.e., net gain/loss upon

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action fully implemented) emissions. The ACAM analysis used the latest and most accurate emission estimation techniques available; all algorithms, emission factors, and methodologies used are described in detail in the USAF Air Emissions Guide for Air Force Stationary Sources, the USAF Air Emissions Guide for Air Force Mobile Sources, and the USAF Air Emissions Guide for Air Force Transitory Sources.

“Insignificance Indicators” were used in the analysis to provide an indication of the significance of potential impacts to air quality based on current ambient air quality relative to the National Ambient Air Quality Standards (NAAQSs). These insignificance indicators are the 250 ton/yr Prevention of Significant Deterioration (PSD) major source threshold for actions occurring in areas that are “Clearly Attainment” (i.e., not within 5% of any NAAQS) and the GCR de minimis values (25 ton/yr for lead and 100 ton/yr for all other criteria pollutants) for actions occurring in areas that are “Near Nonattainment” (i.e., within 5% of any NAAQS). These indicators do not define a significant impact; however, they do provide a threshold to identify actions that are insignificant. Any action with net emissions below the insignificance indicators for all criteria pollutant is considered so insignificant that the action will not cause or contribute to an exceedance on one or more NAAQSs. For further detail on insignificance indicators see chapter 4 of the Air Force Air Quality Environmental Impact Analysis Process (EIAP) Guide, Volume II - Advanced Assessments.

The action's net emissions for every year through achieving steady state were compared against the Insignificance Indicator and are summarized below.

**Analysis Summary:**

**2023**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.001	250	No
NOx	0.352	250	No
CO	0.072	250	No
SOx	0.022	250	No
PM 10	0.012	250	No
PM 2.5	0.009	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	67.3		

**2024**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.001	250	No
NOx	0.352	250	No
CO	0.072	250	No
SOx	0.022	250	No
PM 10	0.012	250	No
PM 2.5	0.009	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	67.3		

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**2025**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.001	250	No
NOx	0.352	250	No
CO	0.072	250	No
SOx	0.022	250	No
PM 10	0.012	250	No
PM 2.5	0.009	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	67.3		

**2026**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.001	250	No
NOx	0.352	250	No
CO	0.072	250	No
SOx	0.022	250	No
PM 10	0.012	250	No
PM 2.5	0.009	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	67.3		

**2027**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.001	250	No
NOx	0.352	250	No
CO	0.072	250	No
SOx	0.022	250	No
PM 10	0.012	250	No
PM 2.5	0.009	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	67.3		

**2028**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.001	250	No
NOx	0.352	250	No
CO	0.072	250	No

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<b>SOx</b>	0.022	250	No
<b>PM 10</b>	0.012	250	No
<b>PM 2.5</b>	0.009	250	No
<b>Pb</b>	0.000	25	No
<b>NH3</b>	0.000	250	No
<b>CO2e</b>	67.3		

**2029**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.001	250	No
NOx	0.352	250	No
CO	0.072	250	No
SOx	0.022	250	No
PM 10	0.012	250	No
PM 2.5	0.009	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	67.3		

**2030**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.001	250	No
NOx	0.352	250	No
CO	0.072	250	No
SOx	0.022	250	No
PM 10	0.012	250	No
PM 2.5	0.009	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	67.3		

**2031**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.001	250	No
NOx	0.352	250	No
CO	0.072	250	No
SOx	0.022	250	No
PM 10	0.012	250	No
PM 2.5	0.009	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	67.3		

**2032**

Pollutant	INSIGNIFICANCE INDICATOR		
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	<b>Action Emissions (ton/yr)</b>	<b>Indicator (ton/yr)</b>	<b>Exceedance (Yes or No)</b>
<b>NOT IN A REGULATORY AREA</b>			
<b>VOC</b>	0.001	250	No
<b>NOx</b>	0.352	250	No
<b>CO</b>	0.072	250	No
<b>SOx</b>	0.022	250	No
<b>PM 10</b>	0.012	250	No
<b>PM 2.5</b>	0.009	250	No
<b>Pb</b>	0.000	25	No
<b>NH3</b>	0.000	250	No
<b>CO2e</b>	67.3		

**2033 - (Steady State)**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.000	250	No
NOx	0.000	250	No
CO	0.000	250	No
SOx	0.000	250	No
PM 10	0.000	250	No
PM 2.5	0.000	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	0.0		

None of estimated annual net emissions associated with this action are above the insignificance indicators, indicating no significant impact to air quality. Therefore, the action will not cause or contribute to an exceedance on one or more NAAQSs. No further air assessment is needed.



Radhika Narayanan, Environmental Scientist

11/17/2022  
DATE



## **W-470 Low Scenario**

**1. General Information:** The Air Force's Air Conformity Applicability Model (ACAM) was used to perform an analysis to assess the potential air quality impact/s associated with the action in accordance with the Air Force Manual 32-7002, Environmental Compliance and Pollution Prevention; the Environmental Impact Analysis Process (EIAP, 32 CFR 989); and the General Conformity Rule (GCR, 40 CFR 93 Subpart B). This report provides a summary of the ACAM analysis.

**a. Action Location:**

**Base:** EGLIN AFB  
**State:** Florida  
**County(s):** Franklin  
**Regulatory Area(s):** NOT IN A REGULATORY AREA

**b. Action Title:** Eglin AFB Combat Air Force Adversary Air Plus Up with F-22 Formal Training Unit, Florida - Alternative 1

**c. Project Number/s (if applicable):** N/A

**d. Projected Action Start Date:** 1 / 2023

**e. Action Description:**

In the previously analyzed EA, Eglin AFB or the civil airports proposed for use and military training SUA were analyzed for possible suitable use by contract ADAIR service provider to support Eglin AFB operations. The elements affecting the Eglin AFB or the civil airports proposed for use included contract ADAIR aircraft, facilities, maintenance, personnel, and sorties. The previously analyzed EA included an estimated 12 contractor aircraft to fly roughly 2,400 annual sorties to support the 33 FW and other units at Eglin AFB. Additional traffic patterns were anticipated to be no more than 5 percent of the annual sortie total, about 120 sorties for a total of 2,520 annual sorties from the selected airport.

This Proposed Action includes contracting an estimated four (4) additional contractor aircraft to fly roughly 600 additional annual ADAIR sorties to support the 33 FW and other units at Eglin AFB, potentially including the F-22 FTU. The proposed number of sorties varies depending on the alternative. Additional traffic patterns are anticipated to be no more than 5 percent of the annual sortie total, about 30 sorties for a total of 630 annual sorties from the selected airport. The analysis examines three separate emission scenarios: high, medium, and low. No significant construction is anticipated as a result of the action. If it is later determined construction is required at the airfield a separate environmental analysis would be completed as required.

**f. Point of Contact:**

**Name:** Radhika Narayanan  
**Title:** Environmental Scientist  
**Organization:** Versar, LLC  
**Email:** rnarayanan@versar.com  
**Phone Number:** n/a

**2. Air Impact Analysis:** Based on the attainment status at the action location, the requirements of the General Conformity Rule are:

☐ applicable  
☒ not applicable

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Total net direct and indirect emissions associated with the action were estimated through ACAM on a calendar-year basis for the start of the action through achieving “steady state” (i.e., net gain/loss upon action fully implemented) emissions. The ACAM analysis used the latest and most accurate emission estimation techniques available; all algorithms, emission factors, and methodologies used are described in detail in the USAF Air Emissions Guide for Air Force Stationary Sources, the USAF Air Emissions Guide for Air Force Mobile Sources, and the USAF Air Emissions Guide for Air Force Transitory Sources.

“Insignificance Indicators” were used in the analysis to provide an indication of the significance of potential impacts to air quality based on current ambient air quality relative to the National Ambient Air Quality Standards (NAAQSs). These insignificance indicators are the 250 ton/yr Prevention of Significant Deterioration (PSD) major source threshold for actions occurring in areas that are “Clearly Attainment” (i.e., not within 5% of any NAAQS) and the GCR de minimis values (25 ton/yr for lead and 100 ton/yr for all other criteria pollutants) for actions occurring in areas that are “Near Nonattainment” (i.e., within 5% of any NAAQS). These indicators do not define a significant impact; however, they do provide a threshold to identify actions that are insignificant. Any action with net emissions below the insignificance indicators for all criteria pollutant is considered so insignificant that the action will not cause or contribute to an exceedance on one or more NAAQSs. For further detail on insignificance indicators see chapter 4 of the Air Force Air Quality Environmental Impact Analysis Process (EIAP) Guide, Volume II - Advanced Assessments.

The action's net emissions for every year through achieving steady state were compared against the Insignificance Indicator and are summarized below.

**Analysis Summary:**

2023			
Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.051	250	No
NOx	0.029	250	No
CO	0.542	250	No
SOx	0.013	250	No
PM 10	0.000	250	No
PM 2.5	0.000	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	40.8		

2024			
Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.051	250	No
NOx	0.029	250	No
CO	0.542	250	No
SOx	0.013	250	No
PM 10	0.000	250	No
PM 2.5	0.000	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	40.8		

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**2025**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.051	250	No
NOx	0.029	250	No
CO	0.542	250	No
SOx	0.013	250	No
PM 10	0.000	250	No
PM 2.5	0.000	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	40.8		

**2026**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.051	250	No
NOx	0.029	250	No
CO	0.542	250	No
SOx	0.013	250	No
PM 10	0.000	250	No
PM 2.5	0.000	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	40.8		

**2027**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.051	250	No
NOx	0.029	250	No
CO	0.542	250	No
SOx	0.013	250	No
PM 10	0.000	250	No
PM 2.5	0.000	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	40.8		

**2028**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.051	250	No
NOx	0.029	250	No
CO	0.542	250	No

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<b>SOx</b>	0.013	250	No
<b>PM 10</b>	0.000	250	No
<b>PM 2.5</b>	0.000	250	No
<b>Pb</b>	0.000	25	No
<b>NH3</b>	0.000	250	No
<b>CO2e</b>	40.8		

**2029**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.051	250	No
NOx	0.029	250	No
CO	0.542	250	No
SOx	0.013	250	No
PM 10	0.000	250	No
PM 2.5	0.000	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	40.8		

**2030**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.051	250	No
NOx	0.029	250	No
CO	0.542	250	No
SOx	0.013	250	No
PM 10	0.000	250	No
PM 2.5	0.000	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	40.8		

**2031**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.051	250	No
NOx	0.029	250	No
CO	0.542	250	No
SOx	0.013	250	No
PM 10	0.000	250	No
PM 2.5	0.000	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	40.8		

**2032**

Pollutant		INSIGNIFICANCE INDICATOR	
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	<b>Action Emissions (ton/yr)</b>	<b>Indicator (ton/yr)</b>	<b>Exceedance (Yes or No)</b>
<b>NOT IN A REGULATORY AREA</b>			
<b>VOC</b>	0.051	250	No
<b>NOx</b>	0.029	250	No
<b>CO</b>	0.542	250	No
<b>SOx</b>	0.013	250	No
<b>PM 10</b>	0.000	250	No
<b>PM 2.5</b>	0.000	250	No
<b>Pb</b>	0.000	25	No
<b>NH3</b>	0.000	250	No
<b>CO2e</b>	40.8		

**2033 - (Steady State)**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.000	250	No
NOx	0.000	250	No
CO	0.000	250	No
SOx	0.000	250	No
PM 10	0.000	250	No
PM 2.5	0.000	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	0.0		

None of estimated annual net emissions associated with this action are above the insignificance indicators, indicating no significant impact to air quality. Therefore, the action will not cause or contribute to an exceedance on one or more NAAQSs. No further air assessment is needed.



Radhika Narayanan, Environmental Scientist

11/17/2022  
DATE



**C.3.10      *Summary Air Conformity Applicability Model Report Record of Air Analysis for  
Warning Area W-151 (Alternatives 2,3 & 4)***

**W-151 High Scenario**

**1. General Information:** The Air Force's Air Conformity Applicability Model (ACAM) was used to perform an analysis to assess the potential air quality impact/s associated with the action in accordance with the Air Force Manual 32-7002, Environmental Compliance and Pollution Prevention; the Environmental Impact Analysis Process (EIAP, 32 CFR 989); and the General Conformity Rule (GCR, 40 CFR 93 Subpart B). This report provides a summary of the ACAM analysis.

**a. Action Location:**

**Base:** EGLIN AFB  
**State:** Florida  
**County(s):** Bay  
**Regulatory Area(s):** NOT IN A REGULATORY AREA

**b. Action Title:** Eglin AFB Combat Air Force Adversary Air Plus Up with F-22 Formal Training Unit, Florida  
- Alternatives 2 & 3

**c. Project Number/s (if applicable):** N/A

**d. Projected Action Start Date:** 1 / 2023

**e. Action Description:**

In the previously analyzed EA, Eglin AFB or the civil airports proposed for use and military training SUA were analyzed for possible suitable use by contract ADAIR service provider to support Eglin AFB operations. The elements affecting the Eglin AFB or the civil airports proposed for use included contract ADAIR aircraft, facilities, maintenance, personnel, and sorties. The previously analyzed EA included an estimated 12 contractor aircraft to fly roughly 2,400 annual sorties to support the 33 FW and other units at Eglin AFB. Additional traffic patterns were anticipated to be no more than 5 percent of the annual sortie total, about 120 sorties for a total of 2,520 annual sorties from the selected airport.

This Proposed Action includes contracting an estimated four (4) additional contractor aircraft to fly roughly 600 additional annual ADAIR sorties to support the 33 FW and other units at Eglin AFB, potentially including the F-22 FTU. The proposed number of sorties varies depending on the alternative. Additional traffic patterns are anticipated to be no more than 5 percent of the annual sortie total, about 30 sorties for a total of 630 annual sorties from the selected airport. The analysis examines three separate emission scenarios: high, medium, and low. No significant construction is anticipated as a result of the action. If it is later determined construction is required at the airfield a separate environmental analysis would be completed as required.

**f. Point of Contact:**

**Name:** Radhika Narayanan  
**Title:** Environmental Scientist  
**Organization:** Versar, LLC  
**Email:** rnarayanan@versar.com  
**Phone Number:** n/a

**2. Air Impact Analysis:** Based on the attainment status at the action location, the requirements of the General Conformity Rule are:

☐ applicable  
☒ not applicable

Total net direct and indirect emissions associated with the action were estimated through ACAM on a calendar-year basis for the start of the action through achieving “steady state” (i.e., net gain/loss upon action fully implemented) emissions. The ACAM analysis used the latest and most accurate emission estimation techniques available; all algorithms, emission factors, and methodologies used are described in detail in the USAF Air Emissions Guide for Air Force Stationary Sources, the USAF Air Emissions Guide for Air Force Mobile Sources, and the USAF Air Emissions Guide for Air Force Transitory Sources.

“Insignificance Indicators” were used in the analysis to provide an indication of the significance of potential impacts to air quality based on current ambient air quality relative to the National Ambient Air Quality Standards (NAAQSs). These insignificance indicators are the 250 ton/yr Prevention of Significant Deterioration (PSD) major source threshold for actions occurring in areas that are “Clearly Attainment” (i.e., not within 5% of any NAAQS) and the GCR de minimis values (25 ton/yr for lead and 100 ton/yr for all other criteria pollutants) for actions occurring in areas that are “Near Nonattainment” (i.e., within 5% of any NAAQS). These indicators do not define a significant impact; however, they do provide a threshold to identify actions that are insignificant. Any action with net emissions below the insignificance indicators for all criteria pollutant is considered so insignificant that the action will not cause or contribute to an exceedance on one or more NAAQSs. For further detail on insignificance indicators see chapter 4 of the Air Force Air Quality Environmental Impact Analysis Process (EIAP) Guide, Volume II - Advanced Assessments.

The action’s net emissions for every year through achieving steady state were compared against the Insignificance Indicator and are summarized below.

**Analysis Summary:**

**2023**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.040	250	No
NOx	7.648	250	No
CO	0.203	250	No
SOx	0.302	250	No
PM 10	0.203	250	No
PM 2.5	0.183	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	913.0		

**2024**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.040	250	No
NOx	7.648	250	No
CO	0.203	250	No
SOx	0.302	250	No
PM 10	0.203	250	No
PM 2.5	0.183	250	No
Pb	0.000	25	No
NH3	0.000	250	No

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<b>CO2e</b>	913.0		
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**2025**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.040	250	No
NOx	7.648	250	No
CO	0.203	250	No
SOx	0.302	250	No
PM 10	0.203	250	No
PM 2.5	0.183	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	913.0		

**2026**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.040	250	No
NOx	7.648	250	No
CO	0.203	250	No
SOx	0.302	250	No
PM 10	0.203	250	No
PM 2.5	0.183	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	913.0		

**2027**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.040	250	No
NOx	7.648	250	No
CO	0.203	250	No
SOx	0.302	250	No
PM 10	0.203	250	No
PM 2.5	0.183	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	913.0		

**2028**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.040	250	No
NOx	7.648	250	No

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<b>CO</b>	0.203	250	No
<b>SOx</b>	0.302	250	No
<b>PM 10</b>	0.203	250	No
<b>PM 2.5</b>	0.183	250	No
<b>Pb</b>	0.000	25	No
<b>NH3</b>	0.000	250	No
<b>CO2e</b>	913.0		

**2029**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.040	250	No
NOx	7.648	250	No
CO	0.203	250	No
SOx	0.302	250	No
PM 10	0.203	250	No
PM 2.5	0.183	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	913.0		

**2030**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.040	250	No
NOx	7.648	250	No
CO	0.203	250	No
SOx	0.302	250	No
PM 10	0.203	250	No
PM 2.5	0.183	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	913.0		

**2031**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.040	250	No
NOx	7.648	250	No
CO	0.203	250	No
SOx	0.302	250	No
PM 10	0.203	250	No
PM 2.5	0.183	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	913.0		

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**2032**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.040	250	No
NOx	7.648	250	No
CO	0.203	250	No
SOx	0.302	250	No
PM 10	0.203	250	No
PM 2.5	0.183	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	913.0		

**2033 - (Steady State)**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.000	250	No
NOx	0.000	250	No
CO	0.000	250	No
SOx	0.000	250	No
PM 10	0.000	250	No
PM 2.5	0.000	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	0.0		

None of estimated annual net emissions associated with this action are above the insignificance indicators, indicating no significant impact to air quality. Therefore, the action will not cause or contribute to an exceedance on one or more NAAQSs. No further air assessment is needed.



Radhika Narayanan, Environmental Scientist

11/17/2022  
DATE



## **W-151 Medium Scenario**

**1. General Information:** The Air Force's Air Conformity Applicability Model (ACAM) was used to perform an analysis to assess the potential air quality impact/s associated with the action in accordance with the Air Force Manual 32-7002, Environmental Compliance and Pollution Prevention; the Environmental Impact Analysis Process (EIAP, 32 CFR 989); and the General Conformity Rule (GCR, 40 CFR 93 Subpart B). This report provides a summary of the ACAM analysis.

**a. Action Location:**

**Base:** EGLIN AFB  
**State:** Florida  
**County(s):** Bay  
**Regulatory Area(s):** NOT IN A REGULATORY AREA

**b. Action Title:** Eglin AFB Combat Air Force Adversary Air Plus Up with F-22 Formal Training Unit, Florida - Alternatives 2 & 3

**c. Project Number/s (if applicable):** N/A

**d. Projected Action Start Date:** 1 / 2023

**e. Action Description:**

Eglin AFB or the civil airports proposed for use and military training SUA are being analyzed for possible suitable use by contract ADAIR service provider to support Eglin AFB operations. The elements affecting the Eglin AFB or the civil airports proposed for use include contract ADAIR aircraft, facilities, maintenance, personnel, and sorties. The Proposed Action includes contracting an estimated 12 contractor aircraft to fly roughly 2,400 annual sorties to support the 33 FW and other units at Eglin AFB. Additional traffic patterns would be anticipated on no more than 5 percent of the annual sortie total, about 120 sorties for a total of 2,520 annual sorties from the selected airport. The analysis examines three separate emission scenarios: high, medium, and low. No significant construction is anticipated at this time as a result of the action. If it is later determined construction is required at the airfield a separate environmental analysis would be completed as required.

**f. Point of Contact:**

**Name:** Radhika Narayanan  
**Title:** Environmental Scientist  
**Organization:** Versar, LLC  
**Email:** rnarayanan@versar.com  
**Phone Number:** n/a

**2. Air Impact Analysis:** Based on the attainment status at the action location, the requirements of the General Conformity Rule are:

☐ applicable  
☒ not applicable

Total net direct and indirect emissions associated with the action were estimated through ACAM on a calendar-year basis for the start of the action through achieving "steady state" (i.e., net gain/loss upon action fully implemented) emissions. The ACAM analysis used the latest and most accurate emission estimation techniques available; all algorithms, emission factors, and methodologies used are described in detail in the USAF Air Emissions Guide for Air Force Stationary Sources, the USAF Air Emissions Guide for Air Force Mobile Sources, and the USAF Air Emissions Guide for Air Force Transitory Sources.

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“Insignificance Indicators” were used in the analysis to provide an indication of the significance of potential impacts to air quality based on current ambient air quality relative to the National Ambient Air Quality Standards (NAAQSs). These insignificance indicators are the 250 ton/yr Prevention of Significant Deterioration (PSD) major source threshold for actions occurring in areas that are “Clearly Attainment” (i.e., not within 5% of any NAAQS) and the GCR de minimis values (25 ton/yr for lead and 100 ton/yr for all other criteria pollutants) for actions occurring in areas that are “Near Nonattainment” (i.e., within 5% of any NAAQS). These indicators do not define a significant impact; however, they do provide a threshold to identify actions that are insignificant. Any action with net emissions below the insignificance indicators for all criteria pollutant is considered so insignificant that the action will not cause or contribute to an exceedance on one or more NAAQSs. For further detail on insignificance indicators see chapter 4 of the Air Force Air Quality Environmental Impact Analysis Process (EIAP) Guide, Volume II - Advanced Assessments.

The action’s net emissions for every year through achieving steady state were compared against the Insignificance Indicator and are summarized below.

**Analysis Summary:**

**2023**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.006	250	No
NOx	2.279	250	No
CO	0.467	250	No
SOx	0.144	250	No
PM 10	0.078	250	No
PM 2.5	0.055	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	435.5		

**2024**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.006	250	No
NOx	2.279	250	No
CO	0.467	250	No
SOx	0.144	250	No
PM 10	0.078	250	No
PM 2.5	0.055	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	435.5		

**2025**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.006	250	No
NOx	2.279	250	No

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<b>CO</b>	0.467	250	No
<b>SOx</b>	0.144	250	No
<b>PM 10</b>	0.078	250	No
<b>PM 2.5</b>	0.055	250	No
<b>Pb</b>	0.000	25	No
<b>NH3</b>	0.000	250	No
<b>CO2e</b>	435.5		

**2026**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.006	250	No
NOx	2.279	250	No
CO	0.467	250	No
SOx	0.144	250	No
PM 10	0.078	250	No
PM 2.5	0.055	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	435.5		

**2027**

2027

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.006	250	No
NOx	2.279	250	No
CO	0.467	250	No
SOx	0.144	250	No
PM 10	0.078	250	No
PM 2.5	0.055	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	435.5		

**2028**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.006	250	No
NOx	2.279	250	No
CO	0.467	250	No
SOx	0.144	250	No
PM 10	0.078	250	No
PM 2.5	0.055	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	435.5		

**2029**

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Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.006	250	No
NOx	2.279	250	No
CO	0.467	250	No
SOx	0.144	250	No
PM 10	0.078	250	No
PM 2.5	0.055	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	435.5		

**2030**

2000

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.006	250	No
NOx	2.279	250	No
CO	0.467	250	No
SOx	0.144	250	No
PM 10	0.078	250	No
PM 2.5	0.055	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	435.5		

**2031**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.006	250	No
NOx	2.279	250	No
CO	0.467	250	No
SOx	0.144	250	No
PM 10	0.078	250	No
PM 2.5	0.055	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	435.5		

**2032**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.006	250	No
NOx	2.279	250	No
CO	0.467	250	No
SOx	0.144	250	No
PM 10	0.078	250	No

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<b>PM 2.5</b>	0.055	250	No
<b>Pb</b>	0.000	25	No
<b>NH3</b>	0.000	250	No
<b>CO2e</b>	435.5		

**2033 - (Steady State)**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.000	250	No
NOx	0.000	250	No
CO	0.000	250	No
SOx	0.000	250	No
PM 10	0.000	250	No
PM 2.5	0.000	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	0.0		

None of estimated annual net emissions associated with this action are above the insignificance indicators, indicating no significant impact to air quality. Therefore, the action will not cause or contribute to an exceedance on one or more NAAQSs. No further air assessment is needed.



Radhika Narayanan, Environmental Scientist

11/17/2022  
DATE



## **W-151 Low Scenario**

**1. General Information:** The Air Force's Air Conformity Applicability Model (ACAM) was used to perform an analysis to assess the potential air quality impact/s associated with the action in accordance with the Air Force Manual 32-7002, Environmental Compliance and Pollution Prevention; the Environmental Impact Analysis Process (EIAP, 32 CFR 989); and the General Conformity Rule (GCR, 40 CFR 93 Subpart B). This report provides a summary of the ACAM analysis.

**a. Action Location:**

**Base:** EGLIN AFB  
**State:** Florida  
**County(s):** Bay  
**Regulatory Area(s):** NOT IN A REGULATORY AREA

**b. Action Title:** Eglin AFB Combat Air Force Adversary Air Plus Up with F-22 Formal Training Unit, Florida - Alternatives 2 & 3

**c. Project Number/s (if applicable):** N/A

**d. Projected Action Start Date:** 1 / 2023

**e. Action Description:**

In the previously analyzed EA, Eglin AFB or the civil airports proposed for use and military training SUA were analyzed for possible suitable use by contract ADAIR service provider to support Eglin AFB operations. The elements affecting the Eglin AFB or the civil airports proposed for use included contract ADAIR aircraft, facilities, maintenance, personnel, and sorties. The previously analyzed EA included an estimated 12 contractor aircraft to fly roughly 2,400 annual sorties to support the 33 FW and other units at Eglin AFB. Additional traffic patterns were anticipated to be no more than 5 percent of the annual sortie total, about 120 sorties for a total of 2,520 annual sorties from the selected airport.

This Proposed Action includes contracting an estimated four (4) additional contractor aircraft to fly roughly 600 additional annual ADAIR sorties to support the 33 FW and other units at Eglin AFB, potentially including the F-22 FTU. The proposed number of sorties varies depending on the alternative. Additional traffic patterns are anticipated to be no more than 5 percent of the annual sortie total, about 30 sorties for a total of 630 annual sorties from the selected airport. The analysis examines three separate emission scenarios: high, medium, and low. No significant construction is anticipated as a result of the action. If it is later determined construction is required at the airfield a separate environmental analysis would be completed as required.

**f. Point of Contact:**

**Name:** Radhika Narayanan  
**Title:** Environmental Scientist  
**Organization:** Versar, LLC  
**Email:** rnarayanan@versar.com  
**Phone Number:** n/a

**2. Air Impact Analysis:** Based on the attainment status at the action location, the requirements of the General Conformity Rule are:

☐ applicable  
☒ not applicable

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Total net direct and indirect emissions associated with the action were estimated through ACAM on a calendar-year basis for the start of the action through achieving “steady state” (i.e., net gain/loss upon action fully implemented) emissions. The ACAM analysis used the latest and most accurate emission estimation techniques available; all algorithms, emission factors, and methodologies used are described in detail in the USAF Air Emissions Guide for Air Force Stationary Sources, the USAF Air Emissions Guide for Air Force Mobile Sources, and the USAF Air Emissions Guide for Air Force Transitory Sources.

“Insignificance Indicators” were used in the analysis to provide an indication of the significance of potential impacts to air quality based on current ambient air quality relative to the National Ambient Air Quality Standards (NAAQSs). These insignificance indicators are the 250 ton/yr Prevention of Significant Deterioration (PSD) major source threshold for actions occurring in areas that are “Clearly Attainment” (i.e., not within 5% of any NAAQS) and the GCR de minimis values (25 ton/yr for lead and 100 ton/yr for all other criteria pollutants) for actions occurring in areas that are “Near Nonattainment” (i.e., within 5% of any NAAQS). These indicators do not define a significant impact; however, they do provide a threshold to identify actions that are insignificant. Any action with net emissions below the insignificance indicators for all criteria pollutant is considered so insignificant that the action will not cause or contribute to an exceedance on one or more NAAQSs. For further detail on insignificance indicators see chapter 4 of the Air Force Air Quality Environmental Impact Analysis Process (EIAP) Guide, Volume II - Advanced Assessments.

The action's net emissions for every year through achieving steady state were compared against the Insignificance Indicator and are summarized below.

**Analysis Summary:**

**2023**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.329	250	No
NOx	0.188	250	No
CO	3.510	250	No
SOx	0.087	250	No
PM 10	0.001	250	No
PM 2.5	0.001	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	264.0		

**2024**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.329	250	No
NOx	0.188	250	No
CO	3.510	250	No
SOx	0.087	250	No
PM 10	0.001	250	No
PM 2.5	0.001	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	264.0		

**Supplemental EA for Eglin AFB Combat Air Forces Adversary Air Plus Up  
with F-22 Formal Training Unit  
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**2025**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.329	250	No
NOx	0.188	250	No
CO	3.510	250	No
SOx	0.087	250	No
PM 10	0.001	250	No
PM 2.5	0.001	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	264.0		

**2026**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.329	250	No
NOx	0.188	250	No
CO	3.510	250	No
SOx	0.087	250	No
PM 10	0.001	250	No
PM 2.5	0.001	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	264.0		

**2027**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.329	250	No
NOx	0.188	250	No
CO	3.510	250	No
SOx	0.087	250	No
PM 10	0.001	250	No
PM 2.5	0.001	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	264.0		

**2028**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.329	250	No
NOx	0.188	250	No
CO	3.510	250	No

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<b>SOx</b>	0.087	250	No
<b>PM 10</b>	0.001	250	No
<b>PM 2.5</b>	0.001	250	No
<b>Pb</b>	0.000	25	No
<b>NH3</b>	0.000	250	No
<b>CO2e</b>	264.0		

**2029**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.329	250	No
NOx	0.188	250	No
CO	3.510	250	No
SOx	0.087	250	No
PM 10	0.001	250	No
PM 2.5	0.001	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	264.0		

**2030**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.329	250	No
NOx	0.188	250	No
CO	3.510	250	No
SOx	0.087	250	No
PM 10	0.001	250	No
PM 2.5	0.001	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	264.0		

**2031**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.329	250	No
NOx	0.188	250	No
CO	3.510	250	No
SOx	0.087	250	No
PM 10	0.001	250	No
PM 2.5	0.001	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	264.0		

**2032**

Pollutant	INSIGNIFICANCE INDICATOR		
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	Action Emissions (ton/yr)	Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.329	250	No
NOx	0.188	250	No
CO	3.510	250	No
SOx	0.087	250	No
PM 10	0.001	250	No
PM 2.5	0.001	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	264.0		

**2033 - (Steady State)**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.000	250	No
NOx	0.000	250	No
CO	0.000	250	No
SOx	0.000	250	No
PM 10	0.000	250	No
PM 2.5	0.000	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	0.0		

None of estimated annual net emissions associated with this action are above the insignificance indicators, indicating no significant impact to air quality. Therefore, the action will not cause or contribute to an exceedance on one or more NAAQSs. No further air assessment is needed.



Radhika Narayanan, Environmental Scientist

11/17/2022  
DATE



**C.3.11      *Summary Air Conformity Applicability Model Report Record of Air Analysis for  
Warning Area W-470 (Alternatives 2,3 & 4)***

**W-470 High Scenario**

**1. General Information:** The Air Force's Air Conformity Applicability Model (ACAM) was used to perform an analysis to assess the potential air quality impact/s associated with the action in accordance with the Air Force Manual 32-7002, Environmental Compliance and Pollution Prevention; the Environmental Impact Analysis Process (EIAP, 32 CFR 989); and the General Conformity Rule (GCR, 40 CFR 93 Subpart B). This report provides a summary of the ACAM analysis.

**a. Action Location:**

**Base:** EGLIN AFB  
**State:** Florida  
**County(s):** Franklin  
**Regulatory Area(s):** NOT IN A REGULATORY AREA

**b. Action Title:** Eglin AFB Combat Air Force Adversary Air Plus Up with F-22 Formal Training Unit, Florida  
- Alternatives 2 & 3

**c. Project Number/s (if applicable):** N/A

**d. Projected Action Start Date:** 1 / 2023

**e. Action Description:**

In the previously analyzed EA, Eglin AFB or the civil airports proposed for use and military training SUA were analyzed for possible suitable use by contract ADAIR service provider to support Eglin AFB operations. The elements affecting the Eglin AFB or the civil airports proposed for use included contract ADAIR aircraft, facilities, maintenance, personnel, and sorties. The previously analyzed EA included an estimated 12 contractor aircraft to fly roughly 2,400 annual sorties to support the 33 FW and other units at Eglin AFB. Additional traffic patterns were anticipated to be no more than 5 percent of the annual sortie total, about 120 sorties for a total of 2,520 annual sorties from the selected airport.

This Proposed Action includes contracting an estimated four (4) additional contractor aircraft to fly roughly 600 additional annual ADAIR sorties to support the 33 FW and other units at Eglin AFB, potentially including the F-22 FTU. The proposed number of sorties varies depending on the alternative. Additional traffic patterns are anticipated to be no more than 5 percent of the annual sortie total, about 30 sorties for a total of 630 annual sorties from the selected airport. The analysis examines three separate emission scenarios: high, medium, and low. No significant construction is anticipated as a result of the action. If it is later determined construction is required at the airfield a separate environmental analysis would be completed as required.

**f. Point of Contact:**

**Name:** Radhika Narayanan  
**Title:** Environmental Scientist  
**Organization:** Versar, LLC  
**Email:** rnarayanan@versar.com  
**Phone Number:** n/a

**2. Air Impact Analysis:** Based on the attainment status at the action location, the requirements of the General Conformity Rule are:

☐ applicable  
☒ not applicable

Total net direct and indirect emissions associated with the action were estimated through ACAM on a calendar-year basis for the start of the action through achieving “steady state” (i.e., net gain/loss upon action fully implemented) emissions. The ACAM analysis used the latest and most accurate emission estimation techniques available; all algorithms, emission factors, and methodologies used are described in detail in the USAF Air Emissions Guide for Air Force Stationary Sources, the USAF Air Emissions Guide for Air Force Mobile Sources, and the USAF Air Emissions Guide for Air Force Transitory Sources.

“Insignificance Indicators” were used in the analysis to provide an indication of the significance of potential impacts to air quality based on current ambient air quality relative to the National Ambient Air Quality Standards (NAAQSs). These insignificance indicators are the 250 ton/yr Prevention of Significant Deterioration (PSD) major source threshold for actions occurring in areas that are “Clearly Attainment” (i.e., not within 5% of any NAAQS) and the GCR de minimis values (25 ton/yr for lead and 100 ton/yr for all other criteria pollutants) for actions occurring in areas that are “Near Nonattainment” (i.e., within 5% of any NAAQS). These indicators do not define a significant impact; however, they do provide a threshold to identify actions that are insignificant. Any action with net emissions below the insignificance indicators for all criteria pollutant is considered so insignificant that the action will not cause or contribute to an exceedance on one or more NAAQSs. For further detail on insignificance indicators see chapter 4 of the Air Force Air Quality Environmental Impact Analysis Process (EIAP) Guide, Volume II - Advanced Assessments.

The action’s net emissions for every year through achieving steady state were compared against the Insignificance Indicator and are summarized below.

**Analysis Summary:**

**2023**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.002	250	No
NOx	0.295	250	No
CO	0.008	250	No
SOx	0.012	250	No
PM 10	0.008	250	No
PM 2.5	0.007	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	35.3		

**2024**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.002	250	No
NOx	0.295	250	No
CO	0.008	250	No
SOx	0.012	250	No
PM 10	0.008	250	No
PM 2.5	0.007	250	No
Pb	0.000	25	No
NH3	0.000	250	No

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<b>CO2e</b>	35.3		
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**2025**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.002	250	No
NOx	0.295	250	No
CO	0.008	250	No
SOx	0.012	250	No
PM 10	0.008	250	No
PM 2.5	0.007	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	35.3		

**2026**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.002	250	No
NOx	0.295	250	No
CO	0.008	250	No
SOx	0.012	250	No
PM 10	0.008	250	No
PM 2.5	0.007	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	35.3		

**2027**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.002	250	No
NOx	0.295	250	No
CO	0.008	250	No
SOx	0.012	250	No
PM 10	0.008	250	No
PM 2.5	0.007	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	35.3		

**2028**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.002	250	No
NOx	0.295	250	No

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<b>CO</b>	0.008	250	No
<b>SOx</b>	0.012	250	No
<b>PM 10</b>	0.008	250	No
<b>PM 2.5</b>	0.007	250	No
<b>Pb</b>	0.000	25	No
<b>NH3</b>	0.000	250	No
<b>CO2e</b>	35.3		

**2029**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.002	250	No
NOx	0.295	250	No
CO	0.008	250	No
SOx	0.012	250	No
PM 10	0.008	250	No
PM 2.5	0.007	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	35.3		

**2030**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.002	250	No
NOx	0.295	250	No
CO	0.008	250	No
SOx	0.012	250	No
PM 10	0.008	250	No
PM 2.5	0.007	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	35.3		

**2031**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.002	250	No
NOx	0.295	250	No
CO	0.008	250	No
SOx	0.012	250	No
PM 10	0.008	250	No
PM 2.5	0.007	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	35.3		

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with F-22 Formal Training Unit  
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Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.002	250	No
NOx	0.295	250	No
CO	0.008	250	No
SOx	0.012	250	No
PM 10	0.008	250	No
PM 2.5	0.007	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	35.3		

**2033 - (Steady State)**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.000	250	No
NOx	0.000	250	No
CO	0.000	250	No
SOx	0.000	250	No
PM 10	0.000	250	No
PM 2.5	0.000	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	0.0		

None of estimated annual net emissions associated with this action are above the insignificance indicators, indicating no significant impact to air quality. Therefore, the action will not cause or contribute to an exceedance on one or more NAAQSs. No further air assessment is needed.



Radhika Narayanan, Environmental Scientist

11/17/2022  
DATE



## **W-470 Medium Scenario**

**1. General Information:** The Air Force's Air Conformity Applicability Model (ACAM) was used to perform an analysis to assess the potential air quality impact/s associated with the action in accordance with the Air Force Manual 32-7002, Environmental Compliance and Pollution Prevention; the Environmental Impact Analysis Process (EIAP, 32 CFR 989); and the General Conformity Rule (GCR, 40 CFR 93 Subpart B). This report provides a summary of the ACAM analysis.

**a. Action Location:**

**Base:** EGLIN AFB  
**State:** Florida  
**County(s):** Franklin  
**Regulatory Area(s):** NOT IN A REGULATORY AREA

**b. Action Title:** Eglin AFB Combat Air Force Adversary Air Plus Up with F-22 Formal Training Unit, Florida - Alternatives 2 & 3

**c. Project Number/s (if applicable):** N/A

**d. Projected Action Start Date:** 1 / 2023

**e. Action Description:**

In the previously analyzed EA, Eglin AFB or the civil airports proposed for use and military training SUA were analyzed for possible suitable use by contract ADAIR service provider to support Eglin AFB operations. The elements affecting the Eglin AFB or the civil airports proposed for use included contract ADAIR aircraft, facilities, maintenance, personnel, and sorties. The previously analyzed EA included an estimated 12 contractor aircraft to fly roughly 2,400 annual sorties to support the 33 FW and other units at Eglin AFB. Additional traffic patterns were anticipated to be no more than 5 percent of the annual sortie total, about 120 sorties for a total of 2,520 annual sorties from the selected airport.

This Proposed Action includes contracting an estimated four (4) additional contractor aircraft to fly roughly 600 additional annual ADAIR sorties to support the 33 FW and other units at Eglin AFB, potentially including the F-22 FTU. The proposed number of sorties varies depending on the alternative. Additional traffic patterns are anticipated to be no more than 5 percent of the annual sortie total, about 30 sorties for a total of 630 annual sorties from the selected airport. The analysis examines three separate emission scenarios: high, medium, and low. No significant construction is anticipated as a result of the action. If it is later determined construction is required at the airfield a separate environmental analysis would be completed as required.

**f. Point of Contact:**

**Name:** Radhika Narayanan  
**Title:** Environmental Scientist  
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**2. Air Impact Analysis:** Based on the attainment status at the action location, the requirements of the General Conformity Rule are:

\_\_\_\_\_ applicable  
\_\_X\_\_ not applicable

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Total net direct and indirect emissions associated with the action were estimated through ACAM on a calendar-year basis for the start of the action through achieving “steady state” (i.e., net gain/loss upon action fully implemented) emissions. The ACAM analysis used the latest and most accurate emission estimation techniques available; all algorithms, emission factors, and methodologies used are described in detail in the USAF Air Emissions Guide for Air Force Stationary Sources, the USAF Air Emissions Guide for Air Force Mobile Sources, and the USAF Air Emissions Guide for Air Force Transitory Sources.

“Insignificance Indicators” were used in the analysis to provide an indication of the significance of potential impacts to air quality based on current ambient air quality relative to the National Ambient Air Quality Standards (NAAQSs). These insignificance indicators are the 250 ton/yr Prevention of Significant Deterioration (PSD) major source threshold for actions occurring in areas that are “Clearly Attainment” (i.e., not within 5% of any NAAQS) and the GCR de minimis values (25 ton/yr for lead and 100 ton/yr for all other criteria pollutants) for actions occurring in areas that are “Near Nonattainment” (i.e., within 5% of any NAAQS). These indicators do not define a significant impact; however, they do provide a threshold to identify actions that are insignificant. Any action with net emissions below the insignificance indicators for all criteria pollutant is considered so insignificant that the action will not cause or contribute to an exceedance on one or more NAAQSs. For further detail on insignificance indicators see chapter 4 of the Air Force Air Quality Environmental Impact Analysis Process (EIAP) Guide, Volume II - Advanced Assessments.

The action's net emissions for every year through achieving steady state were compared against the Insignificance Indicator and are summarized below.

**Analysis Summary:**

**2023**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.000	250	No
NOx	0.088	250	No
CO	0.018	250	No
SOx	0.006	250	No
PM 10	0.003	250	No
PM 2.5	0.002	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	16.8		

**2024**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.000	250	No
NOx	0.088	250	No
CO	0.018	250	No
SOx	0.006	250	No
PM 10	0.003	250	No
PM 2.5	0.002	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	16.8		

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**2025**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.000	250	No
NOx	0.088	250	No
CO	0.018	250	No
SOx	0.006	250	No
PM 10	0.003	250	No
PM 2.5	0.002	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	16.8		

**2026**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.000	250	No
NOx	0.088	250	No
CO	0.018	250	No
SOx	0.006	250	No
PM 10	0.003	250	No
PM 2.5	0.002	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	16.8		

**2027**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.000	250	No
NOx	0.088	250	No
CO	0.018	250	No
SOx	0.006	250	No
PM 10	0.003	250	No
PM 2.5	0.002	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	16.8		

**2028**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.000	250	No
NOx	0.088	250	No
CO	0.018	250	No

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<b>SOx</b>	0.006	250	No
<b>PM 10</b>	0.003	250	No
<b>PM 2.5</b>	0.002	250	No
<b>Pb</b>	0.000	25	No
<b>NH3</b>	0.000	250	No
<b>CO2e</b>	16.8		

**2029**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.000	250	No
NOx	0.088	250	No
CO	0.018	250	No
SOx	0.006	250	No
PM 10	0.003	250	No
PM 2.5	0.002	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	16.8		

**2030**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.000	250	No
NOx	0.088	250	No
CO	0.018	250	No
SOx	0.006	250	No
PM 10	0.003	250	No
PM 2.5	0.002	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	16.8		

**2031**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.000	250	No
NOx	0.088	250	No
CO	0.018	250	No
SOx	0.006	250	No
PM 10	0.003	250	No
PM 2.5	0.002	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	16.8		

**2032**

Pollutant		INSIGNIFICANCE INDICATOR	
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	<b>Action Emissions (ton/yr)</b>	<b>Indicator (ton/yr)</b>	<b>Exceedance (Yes or No)</b>
NOT IN A REGULATORY AREA			
<b>VOC</b>	0.000	250	No
<b>NOx</b>	0.088	250	No
<b>CO</b>	0.018	250	No
<b>SOx</b>	0.006	250	No
<b>PM 10</b>	0.003	250	No
<b>PM 2.5</b>	0.002	250	No
<b>Pb</b>	0.000	25	No
<b>NH3</b>	0.000	250	No
<b>CO2e</b>	16.8		

**2033 - (Steady State)**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.000	250	No
NOx	0.000	250	No
CO	0.000	250	No
SOx	0.000	250	No
PM 10	0.000	250	No
PM 2.5	0.000	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	0.0		

None of estimated annual net emissions associated with this action are above the insignificance indicators, indicating no significant impact to air quality. Therefore, the action will not cause or contribute to an exceedance on one or more NAAQSs. No further air assessment is needed.



Radhika Narayanan, Environmental Scientist

11/17/2022  
DATE



## **W-470 Low Scenario**

**1. General Information:** The Air Force's Air Conformity Applicability Model (ACAM) was used to perform an analysis to assess the potential air quality impact/s associated with the action in accordance with the Air Force Manual 32-7002, Environmental Compliance and Pollution Prevention; the Environmental Impact Analysis Process (EIAP, 32 CFR 989); and the General Conformity Rule (GCR, 40 CFR 93 Subpart B). This report provides a summary of the ACAM analysis.

**a. Action Location:**

**Base:** EGLIN AFB  
**State:** Florida  
**County(s):** Franklin  
**Regulatory Area(s):** NOT IN A REGULATORY AREA

**b. Action Title:** Eglin AFB Combat Air Force Adversary Air Plus Up with F-22 Formal Training Unit, Florida - Alternatives 2 & 3

**c. Project Number/s (if applicable):** N/A

**d. Projected Action Start Date:** 1 / 2023

**e. Action Description:**

In the previously analyzed EA, Eglin AFB or the civil airports proposed for use and military training SUA were analyzed for possible suitable use by contract ADAIR service provider to support Eglin AFB operations. The elements affecting the Eglin AFB or the civil airports proposed for use included contract ADAIR aircraft, facilities, maintenance, personnel, and sorties. The previously analyzed EA included an estimated 12 contractor aircraft to fly roughly 2,400 annual sorties to support the 33 FW and other units at Eglin AFB. Additional traffic patterns were anticipated to be no more than 5 percent of the annual sortie total, about 120 sorties for a total of 2,520 annual sorties from the selected airport.

This Proposed Action includes contracting an estimated four (4) additional contractor aircraft to fly roughly 600 additional annual ADAIR sorties to support the 33 FW and other units at Eglin AFB, potentially including the F-22 FTU. The proposed number of sorties varies depending on the alternative. Additional traffic patterns are anticipated to be no more than 5 percent of the annual sortie total, about 30 sorties for a total of 630 annual sorties from the selected airport. The analysis examines three separate emission scenarios: high, medium, and low. No significant construction is anticipated as a result of the action. If it is later determined construction is required at the airfield a separate environmental analysis would be completed as required.

**f. Point of Contact:**

**Name:** Radhika Narayanan  
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**Phone Number:** n/a

**2. Air Impact Analysis:** Based on the attainment status at the action location, the requirements of the General Conformity Rule are:

\_\_\_\_\_ applicable  
\_\_X\_\_ not applicable

**Supplemental EA for Eglin AFB Combat Air Forces Adversary Air Plus Up  
with F-22 Formal Training Unit  
Final**

Total net direct and indirect emissions associated with the action were estimated through ACAM on a calendar-year basis for the start of the action through achieving “steady state” (i.e., net gain/loss upon action fully implemented) emissions. The ACAM analysis used the latest and most accurate emission estimation techniques available; all algorithms, emission factors, and methodologies used are described in detail in the USAF Air Emissions Guide for Air Force Stationary Sources, the USAF Air Emissions Guide for Air Force Mobile Sources, and the USAF Air Emissions Guide for Air Force Transitory Sources.

“Insignificance Indicators” were used in the analysis to provide an indication of the significance of potential impacts to air quality based on current ambient air quality relative to the National Ambient Air Quality Standards (NAAQSs). These insignificance indicators are the 250 ton/yr Prevention of Significant Deterioration (PSD) major source threshold for actions occurring in areas that are “Clearly Attainment” (i.e., not within 5% of any NAAQS) and the GCR de minimis values (25 ton/yr for lead and 100 ton/yr for all other criteria pollutants) for actions occurring in areas that are “Near Nonattainment” (i.e., within 5% of any NAAQS). These indicators do not define a significant impact; however, they do provide a threshold to identify actions that are insignificant. Any action with net emissions below the insignificance indicators for all criteria pollutant is considered so insignificant that the action will not cause or contribute to an exceedance on one or more NAAQSs. For further detail on insignificance indicators see chapter 4 of the Air Force Air Quality Environmental Impact Analysis Process (EIAP) Guide, Volume II - Advanced Assessments. The action's net emissions for every year through achieving steady state were compared against the Insignificance Indicator and are summarized below.

**Analysis Summary:**

**2023**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.013	250	No
NOx	0.007	250	No
CO	0.136	250	No
SOx	0.003	250	No
PM 10	0.000	250	No
PM 2.5	0.000	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	10.2		

**2024**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.013	250	No
NOx	0.007	250	No
CO	0.136	250	No
SOx	0.003	250	No
PM 10	0.000	250	No
PM 2.5	0.000	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	10.2		

**2025**

Pollutant	INSIGNIFICANCE INDICATOR		
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	Action Emissions (ton/yr)	Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.013	250	No
NOx	0.007	250	No
CO	0.136	250	No
SOx	0.003	250	No
PM 10	0.000	250	No
PM 2.5	0.000	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	10.2		

**2026**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.013	250	No
NOx	0.007	250	No
CO	0.136	250	No
SOx	0.003	250	No
PM 10	0.000	250	No
PM 2.5	0.000	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	10.2		

**2027**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.013	250	No
NOx	0.007	250	No
CO	0.136	250	No
SOx	0.003	250	No
PM 10	0.000	250	No
PM 2.5	0.000	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	10.2		

**2028**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.013	250	No
NOx	0.007	250	No
CO	0.136	250	No
SOx	0.003	250	No
PM 10	0.000	250	No
PM 2.5	0.000	250	No

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<b>Pb</b>	0.000	25	No
<b>NH3</b>	0.000	250	No
<b>CO2e</b>	10.2		

**2029**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.013	250	No
NOx	0.007	250	No
CO	0.136	250	No
SOx	0.003	250	No
PM 10	0.000	250	No
PM 2.5	0.000	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	10.2		

**2030**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.013	250	No
NOx	0.007	250	No
CO	0.136	250	No
SOx	0.003	250	No
PM 10	0.000	250	No
PM 2.5	0.000	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	10.2		

**2031**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.013	250	No
NOx	0.007	250	No
CO	0.136	250	No
SOx	0.003	250	No
PM 10	0.000	250	No
PM 2.5	0.000	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	10.2		

**2032**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			

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<b>VOC</b>	0.013	250	No
<b>NOx</b>	0.007	250	No
<b>CO</b>	0.136	250	No
<b>SOx</b>	0.003	250	No
<b>PM 10</b>	0.000	250	No
<b>PM 2.5</b>	0.000	250	No
<b>Pb</b>	0.000	25	No
<b>NH3</b>	0.000	250	No
<b>CO2e</b>	10.2		

**2033 - (Steady State)**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.000	250	No
NOx	0.000	250	No
CO	0.000	250	No
SOx	0.000	250	No
PM 10	0.000	250	No
PM 2.5	0.000	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	0.0		

None of estimated annual net emissions associated with this action are above the insignificance indicators, indicating no significant impact to air quality. Therefore, the action will not cause or contribute to an exceedance on one or more NAAQSs. No further air assessment is needed.



Radhika Narayanan, Environmental Scientist

11/17/2022  
DATE



**APPENDIX D  
LIST OF PREPARERS AND CONTRIBUTORS**

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